ASIATIC RESEARCHES;

OR,

TRANSACTIONS

OF THE

SOCIETY

INSTITUTED IN BENGAL,

FOR INQUIRING INTO THE

HISTORY AND ANTIQUITIES, THE ARTS, SCIENCES, AND LITERATURE,

OF

A S I A.

VOLUME THE FIFTH.

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ADVERTISEMENT.

THE deſerved eſtimation in which the Tranſactions of the various Societies in Great Britain, as well as upon the Continent, have hitherto been held is a circumſtance ſo well known that nothing in this place need be ſaid upon the ſubject; but the lucubrations of the Aſiatic Society have not been ſo widely diffuſed. Nearly the whole of the impreſſion of the Aſiatic Reſearches is diſtributed in the Eaſt Indies, therefore very few copies reach Europe; and this among other reaſons, has given riſe to the preſent publication. To ſuffer ſo many valuable Papers, on a vaſt variety of Literary, Scientific, and Antiquarian Subjects, to lie buried on the ſhelves of a few perſons would have been an unpardonable offence; but to reſcue from a kind of oblivion, and to preſent to their Countrymen in Europe, a regular ſeries of the Papers communicated to the Aſiatic Society, is the intention of the Undertakers of the preſent Work. This Society, it is well known, had the late excellent and learned Sir WILLIAM JONES for its Founder, and for its Preſident many years; but ſince he has favoured the world with an account of its origin in the firſt volume of the work, we ſhall content ourſelves with referring our Readers to that diſcourſe, wherein they will find an ample diſplay of its utility, and a detail of its objects of purſuit.

In the diſſertation on the Religious Ceremonies of the Hindus, p. 361, of the preſent volume, the author cites a paſſage which appears to have reference to the creation of the univerſe, and which ſeems, upon the whole, to bear ſome reſemblance to the account given by Moſes in the Pentateuch. This naturally leads us to conſider the antiquity of both the Moſaic and Hindu Scriptures, and to compare, in ſome meaſure, the accounts given in each work relative to that important fact.

The writings of MOSES have generally been conſidered as more ancient than thoſe of any other perſon; but the Hindu Scriptures, ſo far as the reſearches of ſeveral learned men have extended, appear to be of very high antiquity, and are even carried by ſome beyond the time of the Hebrew Lawgiver. Sir W. JONES, in his Preface to the "Inſtitutes of Hindu Law; or the Ordinances of MENU, according to the Gloſs of CULLU'CA," carries the higheſt age of the *Yajur véda* 1580 years before the birth of CHRIST, which is nine years previous to the birth of MOSES, and ninety before MOSES departed from Egypt with the Iſraelites. This date, of 1580 years before CHRIST, ſeems the more probable, becauſe the Hindu ſages are ſaid to have delivered their knowledge orally. CULLU'A BHATTA produced, what may be ſaid to be very truly, the ſhorteſt, yet the moſt luminous; the leaſt oſtentatious, yet the moſt learned; the deepeſt, yet the moſt agreeable, commentary on the Hindu Scriptures, that ever

was

was compoſed on any author ancient or modern, European or Aſiatic: and it is this work to which the learned generally apply, on account of its clearneſs. We ſhall not, however, take up your time with a diſſertation on the exact age of either the Hebrew or the Hindu Scriptures: both are ancient: let the learned judge: but ſome extracts from the Hindu and Hebrew accounts of the creation may ſerve to ſhew how much they agree together: whether the Hindu Bráhmens borrowed from MOSES or MOSES from the Hindu Bráhmens, is not our preſent enquiry.

Extracts from the Laws of MENU.

THIS *univerſe* exiſted only *in the firſt divine idea yet unexpanded, as if involved* in darkneſs, imperceptible, undeſinable, undiſcoverable *by reaſon, and* undiſcovered *by revelation,* as if it were wholly immerſed in ſleep; (chap. i. 5.)

Then the *ſole* ſelf-exiſting power, himſelf undiſcerned, but making this world diſcernible, with five elements and other principles *of nature*, appeared with undiminiſhed glory, *expanding his idea,* or diſpelling the gloom. (ib. 6.)

He, whom the mind alone can perceive, whoſe eſſence eludes the external organs, who has no viſible parts,

Extracts from the Writings of MOSES.

IN the beginning God created the heaven and the earth. (Gen. i. 1.)

MENU.

parts, who exiſts from eternity, even HE, the ſoul of all beings, whom no being can comprehend, ſhone forth in perſon. (ib. 7.)

He, having willed to produce various beings from his own divine ſubſtance, firſt with a thought created the waters, &c. (ib. 8.)

The waters are called *nârâ*, becauſe they were the production of NARA, *or the ſpirit of God*; and, ſince they were his firſt *ayana*, or *place of motion*, he thence is named NA'RA'YANA, or *moving on the waters*. (ib. 10.)

From THAT WHICH IS, the firſt cauſe, not the object of ſenſe, exiſting *every where in ſubſtance*, not exiſting *to our perception*, without beginning or end, was produced the divine male. (ib. 11.)

—He framed the heaven *above* and the earth *beneath*: in the midſt *he placed* the ſubtil ether, the eight regions, and the permanent receptacle of waters. (ib. 13.)

MOSES.

And the earth was without form, and void; and darkneſs was upon the face of the deep: and the Spirit of God moved upon the face of the waters. (ib. 2.)

And God ſaid, Let us make man in our image. (ib. 26.)

And God ſaid, Let there be a firmament in the midſt of the waters; —and God called the firmament Heaven. (ib. 6, 8.)

—He

MENU.	MOSES.
—He framed all creatures. (ib. 16).	And God ſaid, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, and every living creature that moveth, which the waters brought forth abundantly after their kind, and every winged fowl after his kind. And God ſaid, Let the earth bring forth the living creature after his kind, cattle and creeping thing, and beaſt of the earth after his kind. (ib. 20, 21, 24.)
—He too firſt aſſigned to all creatures diſtinct names, diſtinct acts, and diſtinct occupations. (ib. 21.)	God brought every beaſt of the field unto Adam to ſee what he would call them. And God put the man into the garden of Eden to dreſs it and to keep it. Abel was a keeper of ſheep, but Cain was a tiller of the ground. (ib. ii. 19, 15. iv. 2.)
—He gave being to time and the diviſions of time, to the ſtars alſo, and the planets, to rivers, oceans, and mountains, to level plains, and uneven vallies. (ib. 24.)	God ſaid, let there be lights in the firmament of heaven, to divide the day from the night; and let them be for ſigns and for ſeaſons, for days and for years. — And God made two great

To

MENU.	MOSES.
To devotion, ſpeech, &c. for he willed the exiſtence of all created things. (ib. 25.)	lights; the greater light to rule the day, and the leſſer light to rule the night. (Gen. i. 14, 16. ſee alſo chap. ii. 10, 11, 13, 14. & aliis locis.)
For the ſake of diſtinguiſhing actions, He made a total difference between right and wrong. (ib. 26.)	If thou doeſt well, ſhalt thou not be accepted? and if thou doeſt not well, ſin lieth at the door. (ib. iv. 7. ſee alſo chap. ii. 16, 17.)
—Having divided his own ſubſtance, the mighty Power became half male, half female. (ib. 32.)	God created man in his own image; in the image of God created he him; male and female created he them. (ib. i. 27.)
He, whoſe powers are incomprehenſible, having created ..... this univerſe, was again abſorbed in the Spirit, changing *the* time *of energy* for *the* time *of repoſe*. (ib. 56.)	Thus the heavens and the earth were finiſhed, and all the hoſt of them. And on the ſeventh day God ended his work;—and reſted on the ſeventh day from all his work. (ib. ii. 1, 2.)

Thus the accounts of MOSES and the Hindu Scriptures concerning the creation may be eaſily reconciled to each other. But it is not our intention to ſupport the Hindu writings in preference to the Hebrew Pentateuch; all we deſire is, that truth may be inveſtigated, and that error may be exploded. There are many perſons, no doubt in the

the Eaſt better acquainted with the antiquity of the Sanſcrit books than we are, and by our intercourſe with the Bráhmens and learned Pundits, much may be done towards a right diſcovery of this important matter. The Hindus have, for many ages, looked upon their Scriptures as a revelation from the Supreme Being of his mind and will concerning the works of his creation. They bring forward the Deity declaring his own mind, and think they have an indubitable right to follow the precepts which his word, according to their ancient lawgivers, contains. MOSES too, in his Pentateuch, tells us that the Almighty ordered him to promulgate his law among the people, and to ſhew them the path in which they ſhould walk. The Jews, and after them the Chriſtians, have generally received MOSES's account as valid, and have conſequently followed its dictates with a religious zeal. Enthuſiaſm among every deſcription of people muſt certainly be deſpiſed, but zeal in contending for the truth is highly commendable in whomſoever it ſhall be found. Had the Hindu writings, diveſted of their fabulous paſſages, been diſſeminated in the Weſtern world with as much energy as the works of MOSES have been ſpread abroad, perhaps they would likewiſe have found many admirers and advocates.

Sir W. JONES, ſpeaking of the Laws of MENU, ſays, they contain abundance of curious matter extremely intereſting both to ſpeculative lawyers and antiquaries, with many beauties which need not be pointed out, and with many blemiſhes which cannot be juſtified or palliated. It is a ſyſtem of deſpotiſm and prieſtcraft, both indeed limited by law, but artfully conſpiring to give mutual ſupport, though with mutual checks; it

is filled with ſtrange conceits in metaphyſics and natural philoſophy, with idle ſuperſtition, and with a ſcheme of theology moſt obſcurely figurative, and conſequently liable to dangerous miſconception; it abounds with minute and childiſh formalities, with ceremonies generally abſurd and ridiculous; the puniſhments are partial and fanciful; for ſome crimes, dreadfully cruel, for other reprehenſibly ſlight; and the very morals, though rigid enough on the whole, are in one or two inſtances (as in the caſe of light oaths and of pious perjury) unaccountably relaxed: nevertheleſs, a ſpirit of ſublime devotion, of benevolence to mankind, and of amiable tenderneſs to all ſentient creatures, pervades the whole work; the ſtyle of it has a certain auſtere majeſty, that ſounds like the language of legiſlation, and extorts a reſpectful awe; the ſentiments of independence on all beings but God, and the harſh admonitions, even to kings, are truly noble; and the many panegyrics on the *Gáyatri* the *mother*, as it is called, of the *Véda*, prove the author to have *adored* (not the viſible material *ſun*, but) *that divine and incomparably greater light*, to uſe the words of the moſt venerable text in the Indian Scripture, *which illumines all, delights all, from which all proceed, to which all muſt return, and which can alone irradiate* (not our viſual organs merely, but our ſouls and) *our intellects*.

The writings of MOSES too, are not totally exempt from paſſages which, to the mere reaſon of humanity, carry with them the appearance of fiction or of cruelty. Thus the formation of woman by throwing ADAM into a deep ſleep, and taking a rib from his ſide, has long been matter of ridicule

for

for the ſons of infidelity; as have many other parts of the Pentateuch. But whatever opinion may be entertained of MENU and his laws, it muſt be remembered that they are revered as the word of God by many millions of Hindus who compoſe ſeveral great nations, who are of vaſt importance to the political and commercial intereſts of Europe, whoſe well directed induſtry would add largely to the wealth of Great Britain, and who aſk no greater compenſation than protection for their perſons and property, juſtice in their temporal concerns, indulgence to their old religion, and the benefit of thoſe laws, which they hold ſacred, and which alone they can underſtand.

I.

HISTORICAL REMARKS

ON THE

COAST OF MALABAR.

WITH

SOME DESCRIPTION OF THE MANNERS OF ITS INHABITANTS.

By JONATHAN DUNCAN, Eſquire.

SECTION.

I. IN the book called *Kerul Oodputte*, or, "The emerging of the Country of *Kerul*," (of which, during my ſtay at Calicut, in the year 1793, I made the beſt tranſlation into Engliſh in my power, through the medium of a verſion firſt rendered into Perſian, under my own inſpection, from the Malabaric copy procured from one of the Rajahs of the *Zamorin's* family,) the origin of that coaſt is aſcribed to the piety or penitence of *Pureſeu Rama*, or *Pureſram*, (one of the incarnations of VISHNU,) who, ſtung with remorſe for the blood he had ſo profuſely ſhed in overcoming the Rajahs of the *Khetry* tribe, applied to VARUNA, the God of the Ocean, to ſupply him with a tract of ground to beſtow on the *Bráhmens*; and VARUNA having accordingly withdrawn his waters from the *Gowkern* (a hill in the vicinity of Mangalore) to Cape Comorin, this ſtrip of territory has, from its ſituation, as lying along the foot of the *Sukhien* (by the Europeans called the *Ghaut*) range of mountains, acquired the name of *Mulyalum*, (i. e. Skirting at the Bottom of the Hills,) a term that may have been ſhortened into *Maleyam*, or *Maleam*; whence are alſo probably its common names of *Mulievar* and *Malabar*;

all which *Pureſram* is firmly believed, by its native Hindu inhabitants, to have parcelled out among different tribes of *Bráhmens*, and to have directed that the entire produce of the ſoil ſhould be appropriated to their maintenance, and towards the edification of temples, and for the ſupport of divine worſhip; whence it ſtill continues to be diſtinguiſhed in their writings by the term of *Kermbhoomy*, or, " The Land of Good Works " for the Expiation of Sin."

II. The country thus obtained from the ſea *, is repreſented to have remained long in a marſhy and ſcarcely habitable ſtate; inſomuch, that the firſt occupants, whom *Pureſram* is ſaid to have brought into it from the eaſtern, and even the northern, part of India, again abandoned it; being more eſpecially ſcared by the multitude of ſerpents with which the mud and ſlime of this newly immerged tract is related to have then abounded; and to which numerous accidents are aſcribed, until *Pureſram* taught the inhabitants to propitiate theſe animals, by introducing the worſhip of them and of their images, which became from that period objects of adoration.

III. The country of *Mulyalum* was, according to the *Kerul Oodputtee*, afterwards divided into the four following Tookrees, or diviſions:

1ſt. From Gowkern, already mentioned, to the Perumbura River, was called the *Tooroo*, or *Turu Rauje*.

2d. From

* In a manuſcript account of Malabar that I have ſeen, and which is aſcribed to a Biſhop of Virapoli, (the ſeat of a famous Roman Catholic ſeminary near Cochin,) he obſerves, that, by the accounts of the learned natives of that coaſt, it is little more than 2300 years ſince the ſea came up to the foot of the *Sukhien* or Ghaut mountains; and that it once did ſo he thinks extremely probable from the nature of the ſoil, and the quantity of ſand, oyſter-ſhells, and other fragments, met with in making deep excavations.

2d. From the Perumbura to Poodumputtum was called the *Moſhek Raije*.

3d. From Poodum, or Poodputtun, to the limits of Kunetui, was called the *Kerul* or *Keril Rauje*; and as the principal ſeat of the ancient government was fixed in this middle diviſion of Malabar, its name prevailed over, and was in courſe of time underſtood in a general ſenſe to comprehend the three others.

4th. From Kunety to Kunea Koomary, or Cape Comorin, was called the *Koop Rauje*; and theſe four grand diviſions were parcelled out into a greater number of *Naadhs*, (pronounced *Naars*, and meaning diſtricts or countries,) and of *Khunds*, or ſubdiviſions, under the latter denomination.

IV. The proportion of the produce of their lands, that the *Bráhmens* are ſtated to have originally aſſigned for the ſupport of government, amounted to only one ſixth ſhare: but in the ſame book of *Kerul Oodputtee* they are afterwards ſaid to have divided the country into three equal proportions; one of which was conſecrated to ſupply the expence attending religious worſhip, another for the ſupport of government, and the third for their own maintenance.

V. However this may be, according to the book above quoted, the *Bráhmens* appear to have firſt ſet up, and for ſome time maintained, a ſort of republican or ariſtocratical government, under two or three principal chiefs, elected to adminiſter the government, which was thus carried on (attended, however, with ſeveral intermediate modifications) till, on jealouſies ariſing among themſelves, the great body of the *Brahmen* landholders had recourſe to foreign aſſiſtance, which terminated, either by conqueſt or convention, in their receiving to rule over them a *Permal*, or chief governor, from the Prince of the

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neighbouring country of *Chaldeſh*, (a part of the Southern Carnatic,) and this ſucceſſion of Viceroys was regularly changed and relieved every twelve years; till at length one of thoſe officers, named *Sheo Ram*, or (according to the *Malabar* book) *Shermanoo Permaloo*, and by others called *Cheruma Perumal*, appears to have rendered himſelf ſo popular during his government, that, (as ſeems the moſt probable deduction from the obſcure accounts of this tranſaction in the copy obtained of the *Kerul Oodputtee*, compared with other authorities,) at the expiration of its term, he was enabled, by the encouragement of thoſe over whom his delegated ſway had extended, to confirm his own authority, and to ſet at defiance that of his late ſovereign, the Prince or King of *Chaldeſh*, who is known in their books by the name of Rajah *Kiſhen Rao*; and who having ſent an army into Malabar with a view to recover his authority, is ſtated to have been ſucceſsfully withſtood by *Shermanoo* and the Malabarians; an event which is ſuppoſed to have happened about 1000 years anterior to the preſent period; and is otherwiſe worthy of notice, as being the epoch from which all the Rajahs and chief *Nayrs*, and the other titled and principal lords and landholders of Malabar, date their anceſtors' acquiſition of ſovereignty and rule in that country; all which the greater part of their preſent repreſentatives do uniformly aſſert to have been derived from the grants thus made by *Shermanoo Permaloo*, who, becoming, after the defeat of *Kiſhen Rao's* army, either tired of his ſituation, or, from having (as is the vulgar belief) become a convert to Mahommedaniſm, and being thence deſirous to viſit Arabia, is reported to have made, before his departure, a general diviſion of Malabar among his dependents, the anceſtors of its preſent chieftains.

VI. The book entitled *Kerul Oodputtee* (which, however locally reſpected, is, at leaſt in the copy I procured of it, not a little confuſed and incoherent) mentions

mentions that, after this defeat of *Kiſhen Rao's* army, *Shunker*, a ſuppoſed ſon of *Mahadeo*, (the principal of the Hindu Gods,) regulated the caſts in Malabar, and reſtricted the various ſubdiviſions of the four general tribes to their particular duties, down to the loweſt orders of the fourth, conſiſting of the artificers, tillers of the ſoil, and inhabitants of the woods, whom he declared it unlawful for the other caſts to approach, inſomuch, that the bare meeting with them on the road entailed pollution, for which the party of the ſuperior caſt is required to bathe.*

VII. It

* Of the ſeveral caſts in Malabar, and their diſtinctions, I received the following ſummary account from the Rajah of Cartinad. 1. *Namboory Bráhmens.* 2. *Nayrs*, each of various denominations. 3. *Teer.* 4. *Malere.* 5. *Polere*, called (he ſays) *Dérs* in Hindoſtan. The *Teers* are cultivators of the ground, but freemen. The *Maleres* are muſicians and conjurers, and alſo freemen. The *Poleres*, or *Poliars*, are bondſmen, attached to the ſoil in the lower part of Malabar, in like manner as are the *Puniers* above the Ghauts. The proper name of the Ghaut hills is, the Rajah adds, *Sukhien Purbut*, or hills of *Sukhien*, with the guttural *Kh* pronounced as ċ

N. B. *Pouliats* and *Poulichis*, mentioned by RAYNAL, are only the one the male, and the other the female, of *Polere* aforeſaid. The ſyſtem of obſervations in regard to diſtance to be obſerved by the ſeveral caſts in Malabar, are (according to the Rajah of Cartinad's explanation) as under ſpecified.

1. A *Nayr* may approach, but muſt not touch, a *Namboory Bráhmen.*
A *Teer* is to remain thirty-ſix ſteps off from one.
A *Malere* three or four ſteps further.
A *Polere* ninety-ſix ſteps.

2. A *Teer* is to remain twelve ſteps diſtant from a *Nayr.*
A *Malere* three or four ſteps further.
A *Polere* ninety-ſix ſteps.

3. A *Malere* may approach, but is not to touch, the *Teer.*

4. A *Polere* is not to come near even to a *Malere*, or any other caſt but a *Mapilla*, the name given to the Mahommedans who are natives of Malabar. If a *Polere* wiſhes to ſpeak to a *Bráhmen*, or *Nayr*, or *Teer*, or *Malere*, he muſt ſtand at the above preſcribed diſtance, and cry aloud to them.

If

VII. It is the received tradition among the Malabars, that *Shermanoo Permaloo* was, juſt at the completion of the diſtribution of the Malabar country, applied to for ſome proviſions by an *Erary*, or perſon of the cow-herd caſt; who, with his brother, had, during the preceding warfare, come from their native town of Poondra (on the banks of the Cavery, near Errode) to his aſſiſtance, and had proved the principal cauſe of his ſucceſs againſt Rajah *Kiſhen Rao's* army; upon which *Shermanoo*, having little or nothing elſe left, made a grant to him of the very narrow limits of his own place of abode at Calicut; and having further beſtowed on him his own ſword and ancle chainlet, and other inſignia of dignity, and preſented him with water and flowers, (which appears to have been uniformly the ancient ſymbol of donation and transfer of property in this part of India,) he authoriſed and inſtructed him to extend his own dominions by arms, over as much of the country as he ſhould find deſirable; a diſcretion which this adventurer (who is the anceſtor of the preſent *Samoory* or *Zamorin)* immediately began to act upon, and to endeavour to carry its object into execution, by the forcible acquiſition of the diſtricts adjoining to the preſent city of Calicut; and ever ſince his family appear to have, in the true ſpirit of their original grant, (which is the boaſt and glory of its preſent repreſentatives,) been either meditating new conqueſts, or endeavouring to maintain the acquiſitions they have thus atchieved by *Sheo Ram*, or *Shermanoo Permaloo's* ſword; which they aſſert to have ſtill preſerved as a precious relick, and to have converted into an object of domeſtic adoration, as the inſtrument of all the greatneſs of their houſe.

VIII. Anterior even to this epoch of the partition of Malabar, the *Neſtorians* had ſettled and planted *Chriſtianity* on this coaſt; and with thoſe of the Roman

If a *Polere* touch a *Bráhmen*, the latter muſt make expiation by immediately bathing, and reading much of the divine books, and changing his *Bráhmenical* thread. If a *Polere* touch a *Nayr*, he is only to bathe, and ſo of the other caſts.

man Catholic communion, that arrived ſeveral centuries after, in conſequence of *Vaſco de Gama's* diſcovery, they continue to conſtitute to this day a conſiderable body of the lower orders of the preſent ſociety in *Travancore* and *Cochin*; in which laſt diſtrict there live alſo the moſt conſiderable, or rather, perhaps, the only, colony of *Jews* in India.

IX. Of the events that took place from the partition till the above mentioned diſcovery of Malabar by the *Portugueſe* in 1496, I am not poſſeſſed of adequate materials to afford any full or ſufficiently ſatisfactory detail; but the principal may, as far as relates to its interior adminiſtration, be probably comprized in the wars carried on during this long period by the *Samoory* or *Zamorin* family for its aggrandizement; and in the conſequent ſtruggles kept up by the others, and eſpecially the middle and ſouthern principalities, to maintain their independence: for as to attacks from without, I have not been able to trace that they experienced any material ones during this long interval, or that the Prince of Chaldeſh was ever able to re-eſtabliſh his dominion over this ſouthern part of the coaſt, within the limits aſſigned by the natives to Malabar Proper, or the tract by them denominated *Mulyalum*, or *Maleyam*.

X. During this period alſo the Mahommedan religion made great progreſs in Malabar, as well from the zeal of its more early proſelytes in converting the natives, as in purchaſing or procuring the children of the poorer claſſes, and bringing them up in that faith: and theſe Arabian traders, bringing annually ſums of money to the Malabar coaſt, for the pepper and other ſpices that they carried from it for the ſupply of all the reſt of the world, received every encouragement, and the fulleſt protection for their property and religion, from the ſucceſſive *Samoories*, or *Zamorins*, whence they naturally grew into the habit of rendering that part of the coaſt the centre of their traffic

and reſidence; and ſo rivetted had, through theſe long habits of intercourſe, become the connexion between them and the *Samoory's* government, that the latter continued, after the arrival of the *Portugueſe*, moſt pertinaciouſly to adhere to, and ſupport, them againſt theſe new rivals in the gainful commerce which they had hitherto driven; a predilection that as naturally led the Rajahs of *Cochin*, and of other petty ſtates, that ſtood always in fear of the ambition and ſuperior power of the *Samoories*, to afford to the *Portugueſe* a kind reception in their ports; from which colliſions of intereſts a very cruel warfare, by ſea and land, was for many years carried on between the *Samoories*, or *Zamorins*, and their ſubjects, Hindus and Mahommedans, aided occaſionally by the Egyptians and Turks, on the one part, and the *Portugueſe*, with the *Cochin* and other Rajahs as their allies, on the other; of the various ſucceſſes and reverſes in which, the only *Aſiatick* relation I have met with, is contained in a work, with which, during my ſtay in Malabar, I was obligingly favoured by my then colleague, Major (now Lieutenant-Colonel) Dow, who had traced and obtained it in the courſe of the extenſive intercourſe that, on terms the moſt amicable, and in views the moſt ſalutary and benign, he had long cultivated with the Mahommedan part of the Malabar community. This book, written in the Arabic language, is ſaid to have been compoſed by ZEIR-REDDIEN MUKHDOM, an Arab, Egyptian, or ſubject of the Turkiſh empire; who is thought to have been one of thoſe diſpatched to aſſiſt the Mahommedan Princes of India, and the *Zamorin*, againſt the Portugueſe; and to have, during his ſtay in India, compoſed this hiſtorical account (which I have tranſlated into *Engliſh*) of the warfare in which he bore a part, preceded by (what by many will be conſidered as the moſt intereſting part of his work) a deſcription of the manners and cuſtoms of the natives of *Malabar* at the period of his viſit to it more than two centuries ago; relative to both which articles, I ſhall here inſert ſome of the information acquired by this Mahommedan author, whoſe relation

relation terminates with the year 987 of the Hejira, anſwering to the year of our Lord 1579-80.

XI. This author begins with nearly the ſame account of the converſion of *Shermanoo Permaloo* (whoſe real or proper name, or rather the epithet beſtowed on his ſtation, this Muſſulman mentions to have been *Shukerwutty*, or *Chucker-wutty*) as has been already noticed from the *Kerul Oodputtee*, with this addition, that it was effected by a company of Derviſes from Arabia, who, touching at Crungloor, or Cranganore, (then the ſeat of government in Malabar,) on their voyage to viſit the *Footſtep of Adam*,* on that mountain in *Ceylon* which mariners diſtinguiſh by the name of *Adam's Peak*; and theſe pilgrims imparting, on that occaſion, to the *Permal*, or *Permaloo*, the then recent miracle of *Mahommed's* having *divided the Moon*, the Viceroy was ſo affected by this inſtance of ſupernatural power, and ſo captivated by the fervid repreſentation of theſe enthuſiaſts, that he determined to abandon all for the ſake of proceeding with them into Arabia, to have an opportunity of converſing with the Prophet, who was ſtill alive, and had not even then fled from Mecca; for, after ſojourning ſome time with the Prophet in Arabia, *Chuckerwutty* (whom

* This Footſtep of Adam is, under the name of *Sreepud*, or the "Holy Foot," equally reverenced and reſorted to by the *Hindus*, as appears by the relation of a journey made to viſit it by a *Fakeer* of this laſt mentioned perſuaſion, called PRAUN POORY, now living at *Benares*, who has alſo travelled as far north as to *Moſcow*; and has from memory (ſince he is diſabled from writing, by being of the tribe of *Oordhbahu*, or whoſe arms and hands remain conſtantly in a fixed poſition above their heads) afforded me an opportunity of cauſing to be committed to writing, an intereſting account of his various travels throughout India, as well as into other parts of *Aſia*; and on the ſubject of theſe *Hindu Fakeers'* propenſity to travelling, I may here add, that I ſaw a few months ago at Benares, one of them who had travelled as far as Pekin, which he deſcribed under the name of *Pechin*; and had paſſes from the Chineſe government in his poſſeſſion. He mentioned the name of a temple of Hindu adoration as being ſituated in *Pekin*.

Mahommed had dignified with the title of *Sultaun Tauje ul Herid*, is mentioned in ZEIRREDDIEN'S book to have died on his return, on the firſt day of the firſt year of the Hejira, anſwering to the 16th of July, of the year of our Lord 622, after, however, addreſſing recommendatory letters to the chiefs in Malabar in favour of ſundry of his Muſſulman brethren, who were thereby enabled to conſtruct the firſt moſque or temple of their new faith in that country as early as the 21ſt year of the Hejira, or A. D. 642.

XII. But although ZEIRREDDIEN (the author I am now quoting) deemed it fit to allow a place in his work to the traditions that he found thus locally to obtain, he fairly avows his own diſbelief in them; more eſpecially as to what relates to the ſuppoſed converſion of *Shermanoo Permaloo*,* and his journey to viſit the Prophet in Arabia; ſubjoining alſo his own opinion, that the Muſſulman religion did not acquire any footing, either permanent or extenſive, in *Malabar* till towards the latter end of the ſecond century of the *Mahommedan* æra.

XIII. ZEIRREDDIEN next enters into ſome deſcription of the exiſting manners of the Malabarians as he found them; after premiſing that the Malabar country was then divided into a number of more or leſs extenſive independencies; in which there were chieftains, commanding from one to two and three hundred, and up to a thouſand, and to five, ten, and thirty thouſand; and even (which is perhaps an undue amplification) to a lack of men, and upwards; and

* From this improbability, joined to the unlikely accounts delivered by the Hindus themſelves, as to the departure of their chief governor, it may not perhaps be deemed too uncharitable, to ſuſpect that *Shermanoo* diſappeared like *Romulus* in a ſtorm, as being, perhaps, found inconvenient to the new ſituation of independence that the Malabar Princes admit to have, on this occaſion, either aſſumed, or been promoted to.

and deſcribing that in ſome of theſe countries there were at the ſame time two *Hakims*, or rulers; in others three, and in ſome even more; having diſtinct bodies of men attached to them reſpectively; whence hatred and warfare were, he obſerves, ſometimes generated between them, which never, however, terminated in any entire ſeparation between the parties; and adding, that at that time the three greateſt powers were the *Colaſtrian* Rajah to the north, the *Samoory* or *Zamorin* in the centre; and farther ſouth a Prince who ruled from the town of Kolum, or Coulim, to Cape Comorin, comprehending the ſtates now held by the Rajah of Travancore.

XIV. The author next proceeds to an enumeration of what he conſidered as the chief peculiarities in the manners of the Malabarians, from which I ſhall literally tranſcribe, into the body of this narrative, the following particulars from the tranſlation of ZEIRREDDIEN'S original work; ſubjoining in notes ſuch particulars as my own enquiries, or other information, may tend to corroborate, define, or illuſtrate, in reſpect to ſome of the circumſtances he has related.

1ſt. "If their ruler be ſlain in war, his army become quite deſperate, and "will ſo violently attack and preſs upon their ſaid deceaſed ruler's enemy, and "upon the troops of the latter, and ſo obſtinately perſevere in forcing their "way into his country, and to ruin it, that either they will completely in "this way affect their revenge, or continue their efforts till none of them ſur-"vive; and therefore the killing of a ruler is greatly dreaded, and never "commanded; and this is a very ancient cuſtom of theirs, which in modern "times has, however, fallen with the majority into diſuetude.

2d. "The rulers of Malabar are of two claſſes or parties, one of which "acts in ſupport of the *Samoory* Rajah, whilſt the other party acts in

" concert with the *Hakim* of *Cochin*; which is the general ſyſtem, and " only deviated from occaſionally from particular cauſes; but as ſoon as " theſe ceaſe to operate, the party naturally returns again to the ancient " uſage. Theſe leaders are never guilty of backwardneſs or failure in " war, but will fix a day to fight on, and punctually adhere thereto; nor " will they commit treachery in the conduct of it.

3d. " On the death of any principal or ſuperior perſon among them, " ſuch as father, mother, and elder brother, in the caſt of *Bráhmens*, " (whilſt among carpenters, and the lower caſts, the ſuperiors and principal " perſons are the mother and mother's brother, or one's own elder bro- " ther, as among the *Nayrs*,) when any one dies of the deſcription of a ſu- " perior, as above mentioned, his ſurviving relative is to remain apart for a " twelvemonth; during which time he is not to cohabit with his wife, or to " eat the fleſh of animals, or to chew the beetle leaf, or cut the hair of his " head, or his nails: Nor can any deviation be admitted from this practice, " which is reckoned *for the good of the defunct.*

4th. " It is certain that among the body of *Nayrs*, and their relatives, " the right of ſucceſſion and inheritance veſts in the brother of the mother, or " goes otherwiſe to the ſiſter's ſon, or to ſome of the maternal relations; for " the ſon is not to obtain the property, country, or ſucceſſion of the father; " which cuſtom hath for a long time prevailed; and I (the author) ſay, that " among the *Moſlems* of *Cannanore* they do not bequeath or give their heri- " tage to their ſons, which is alſo the rule with the inhabitants in that vici- " nity, notwithſtanding that theſe ſaid perſons, who do thus exclude their " ſons, be well read in the *Koran*, and have imbibed its precepts, and

" are

" are men of ſtudy and piety.* However, among the *Bráhmens*, gold-
" ſmiths, carpenters, and ironſmiths, and *Teers*, or lower orders of huſband-
" men, and fiſhermen, &c. the ſon does ſucceed to the rights and property of
" the father; and marriage is practiſed among theſe caſts.

5th. " But the *Nayrs* practiſe not marriage, except as far as may be implied
" from their tying a thread round the neck of the woman at the firſt occa-
" ſion; wherefore the acts and practical maxims of this ſect are ſuited to their
" condition, and they look upon the exiſtence or non-exiſtence of the matri-
" monial contract as equally indifferent.

6th. " Among the *Bráhmens*, where there are more brothers than one, only
" their elder, or the oldeſt of all of them, will marry, provided he have
" had, or be likely to have, male iſſue; but theſe brothers, who thus maintain
" celibacy, do nevertheleſs cohabit with *Nayr* women, without marriage, in
" the way of the *Nayrs*; and if, through ſuch intercourſe, a ſon ſhould be
" born, they will not make ſuch child their heir. But when it becomes
" known that the elder married brother (in a family of *Bráhmens*) will not have
" a ſon, then another of the brothers enters into the ſtate of matrimony.

7th. " Among the *Nayrs* it is the cuſtom for one *Nayr* woman to have
" attached to her two males, or four, or perhaps more;† and among theſe a
" diſtribution

* I have, however, reaſon to believe, that this rule and cuſtom is now wearing out among the *Mapillas*, or Malabar Mahommedans; continuing, however, to be ſtill more particularly obſerved at Cannanore and Tellicherry: but, even in this laſt mentioned place, I was informed by KARIAT MOOSA, a principal merchant of this ſect, that it is evaded by fathers dividing among their ſons much of their property during their life-time.

† This deſcription ought, I believe, to be underſtood of the *Nayrs* inhabiting the more ſouthern parts of Malabar, from the Toorecherie, or Cotta river, to Cape Comorin; for to the northward of the ſaid river the *Nayr* women are ſaid to be prohibited from having more than

" diſtribution of time is made ſo as to afford to each one night, in like man-
" ner as a ſimilar diſtribution of time is made among the true believers of Ma-
" labar for cohabiting with their wives; and it but rarely happens that en-
" mity and jealouſy break out among them on this account.

8th. " The lower caſts, ſuch as carpenters, ironſmiths, and others, have
" fallen into the imitation of their ſuperiors, the *Nayrs*, with this difference,
" however, that the joint concern in a female is, among theſe laſt, li-
" mited to the brethren and male relations by blood,* to the end that no
" alienation may take place in the courſe of the ſucceſſion and the right of in-
" heritance.

9th. " Among the *Nayrs* the whole body is kept uncovered, except a little
" about the middle. They make no difference in male or female attire; and
" among

than one male connection at a time; for failure in which ſhe is liable to chaſtiſement; without, however, incurring loſs of caſt, unleſs the paramour be of a lower tribe than her own.

* " Alone in lewdneſs, riotous and free,
" No ſpouſal rights withhold, and no degree;
" In unendear'd embraces free they blend,
" Yet but the huſband's kindred may aſcend
" The nuptial couch. Alas! too bleſt, they know
" Nor jealouſy's ſuſpenſe, nor burning woe;
" The bitter drops which oft from dear affection flow."

MICKLE'S CAMOENS, Book vii.

This cuſtom prevails among the five low caſts of *Teer*; of *Agaree*, or carpenters; *Muzalie*, or braſs-founders; *Tattam*, or goldſmiths; and *Kollen Perimcollen*, or blackſmiths; who live promiſcuouſly with one or more women: and ſometimes two, three, four, or more brothers cohabit with one woman. The child, or children, who are the offspring of this connection, inherit the property of the whole fraternity; and whenever the female of the houſe is engaged with either of the brethren, his knife is ſaid to be hung up at the door of the apartment as a ſignal of its being occupied. It is, however, but juſtice to add, that this cuſtom is ſaid to be local, and practiſed only in a few of the ſouthern diſtricts; and even among theſe five caſts there is no prohibition againſt any man's keeping for himſelf, either one or as many women as he can maintain.

" among their kings and lords, none of them think of ſhrouding their women " from the ſight of all mankind; though among the *Bráhmens* this modeſty " and decorum are attended to.

10th. " Among the *Nayrs*, they dreſs out and adorn their women with " jewels and fine apparel, and bring them out into large companies, to have " them ſeen and admired by all the world.

11th. " Among the *Malabars*, priority in age ſtamps ſuperiority and rule, " were the difference only of a moment; and, notwithſtanding that ſuch party " may be a fool, or blind, or aged, or otherwiſe, the rulerſhip devolves to " the ſiſter's children; nor has it ever been heard that any one put to death " his elder with a view of ſooner attaining to dominion.*

12th. " In caſe the line of deſcent and ſucceſſion become extinct among " them, or be in danger of becoming ſo, they do then bring an alien, (whether " an adult or minor,) and him they conſtitute the inheritor, as the ſubſtitute " for a ſon, or for a brother, or for a ſiſter's ſon; nor will any future difference " be made between ſuch adopted and a real heir; which cuſtom is current and " obſerved among all the infidels of Malabar, whether Rajahs or Shopkeepers, " from the higheſt to the loweſt; ſo that the line of deſcent becomes not " extinct.† 13th.

* Thus in the *Zamorins'* families, and in that of the Rajahs of *Paulghaut*, there are from fifty to an hundred or more males of the ſame blood, i. e. deſcended from females of the Rajah's family, who are all entitled to, and do accordingly riſe to, the chief rule, agreeably to their ſeniority in point of birth, without any other right or title of precedence.

† This is in general true: but there lately occurred an inſtance to the contrary, whereby the *Rauje* or Lordſhip of *Vittulnaad* has eſcheated to the Company. With reſpect to the proviſion occaſionally made againſt ſuch extinctions of families, it is very true that the Rajahs make it a practice, in caſe of any impending danger of this kind, to procure ſome males and females (though of the latter more than of the former) to keep up the regal line.

13th. " They have, moreover, ſubjected themſelves to a multitude of in-
" conveniencies, or difficult obſervances, which they do, nevertheleſs, ſted-
" faſtly adhere to; as, for inſtance, they have arranged and limited the
" fitneſs of things as reſpectively applicable to the higher, middle, and
" lower ranks, in ſuch manner, that if a perſon of the higher, and one of the
" lower, happen to meet, or rather to approach each other, the proper diſtance
" to be obſerved between them is known and defined; and if this diſtance be
" encroached upon, he of the higher caſt muſt bathe; nor can he lawfully touch
" food before undergoing this purification; or if he do, he falls from his dig-
" nity, to which he cannot be raiſed again; nor has he any other reſource
" than to betake himſelf to flight, and, forſaking his abode, to proceed where
" his ſituation is unknown; and ſhould he not thus flee, the ruler of the
" country is to apprehend him, and ſhall ſell him to ſome mean perſon, ſhould
" even the party incurring this diſgrace be a child or a woman; or otherwiſe
" he may reſort to the *Moſlems*, and poſſeſs the *Iſlam*,* or elſe become a *Jogui*,
" or a *Fringy*, i. e. a *Chriſtian*.

14th. " In like manner it is prohibited for thoſe of a lower degree to dreſs
" food for a higher; and if any one partake of ſuch a meal, he muſt fall from his
" rank.

15th. " Thoſe who are entitled to wear the *Zunaar*, or *Bráhmenical* thread,
" are ſuperior to, and more noble than, all the claſſes of the *Infidels* of Malabar;
" and

* This is one of the reaſons aſſigned to me by a Rajah of the *Zamorin* family, for the number of *Mapilla Muſſulmans* being now greater in the *Calicut* diſtricts than the *Hindus* and *Nayrs*; namely, the nicety of their obſervances, and facility of loſing caſt; which drives the parties, from neceſſity, into the pale of *Iſlamiſm*. The ſame Rajah mentioned, on this occaſion, the cuſtom of the *Namboory Brahmens*, who thus diſpoſed of their own women, without incurring any diſparagement of caſt, to the *Mapillas*; which rule holds alſo good in reſpect to other females, as intimated in the ſecond note page 13, and in the ſequel of ZEIR-REDDIEN's text.

" and among theſe *Zunaar* wearers there are alſo the higher, middle, and " lower. Of the firſt are the *Bráhmens*, who are above all others the moſt " reſpectable; and theſe alſo have among themſelves the ſame diſtinctions of " firſt, ſecond, and third degrees.

16th. " The *Nayrs* of *Malabar* follow the martial profeſſion,* and exceed " both in numbers and dignity, having ſundry degrees among themſelves; " and inferior to them in caſt are the *Teers*, whoſe practice it is to climb up " the cocoa-nut trees, and to bring down the fruit, and to extract the in- " toxicating juice thereof, called *toddy*; and below theſe *Teers* are the car- " penters, ſmiths, goldſmiths, fiſhermen, &c. and under theſe again, in reſpect " of degree, are the *Poleres*, or *Poliars*, (i. e. ploughmen,) and thoſe of other " baſe caſts, engaged in the manual part of huſbandry; and among whom " alſo are other ſubordinate degrees of diſtinction.†

* Poliar the labouring lower clans are named;
By the proud *Nayrs* the noble rank is claimed;
The toils of culture and of art they ſcorn:
The ſhining faulchion brandiſh'd in the right,
Their left arm wieldshe target in the fight.
CAMOENS, Book vii.

Theſe lines, and eſpecially the two laſt, contain a good deſcription of a *Nayr*, who walks along, holding up his naked ſword with the ſame kind of unconcern, as travellers in other countries carry in their hands a cane or walking-ſtaff. I have obſerved others of them have it faſtened to their back, the hilt being ſtuck in their waiſtband, and the blade riſing up, and glittering between the ſhoulders. It muſt not, however, be inferred, that all the *Nayrs* betake themſelves, at preſent, to the martial profeſſion; for, according to the information collected for me with much care on the cuſtoms of that country by the late Lieutenant MAC LEAN (who was *Malabar tranſlator* to the commiſſion of which I was a member) there are ſuppoſed to be thirty diſtinct claſſes of this general tribe; many of whom do now apply to the peaceable arts of huſbandry, penmanſhip and account, weaving, carpenter's work, pottery, oil making, and the like; though formerly they are all ſaid to have been liable to be called upon by their reſpective ſovereigns to perform military ſervice.

† For a farther account of theſe caſts, ſee note page 5, and ſecond note page 13.

17th. "If a ſtone light from a *Polere* on a woman of a ſuperior rank on a "particular night, which is marked out for this in the year, then that wo- "man muſt be excluded from her rank; and although ſhe ſhall not have ſeen "the ſaid man, nor been touched by him, yet ſtill her lord ſhall make a con- "veyance of her by ſale; or ſhe ſhall become a *Moſlem*, or a *Chriſtian*, or a "female *Jogui*; and this cuſtom is general*.

18th. "In caſes of fornication (or what is locally deemed the illicit inter- "courſe between the ſexes) if the parties differ much in degree, the higher "loſes his or her rank; nor has he or ſhe any other reſource than the one above- "mentioned: yet, if a *Bráhmen* fornicate with a *Nayr* woman, he ſhall not "thereby loſe his caſt; there being between thoſe two old tribes that an- "ciently eſtabliſhed connection which hath been already noticed.

19th. "Such are the painful obſervances which they have entailed on "themſelves, through their own ignorance and want of knowledge, which "God Almighty hath, however, in his mercy, rendered the means of en- "creaſing the number of the faithful.†"

XV. Our *Mahommedan* author then proceeds to mention, that the towns built along the coaſt of *Malabar* owed their origin to, and were principally conſtructed

* I have allowed this paragraph of ZEIRREDDIEN's text to ſtand inſerted in the order of his own enumeration, becauſe it is connected with the one that follows; though the cuſtom it refers to ſeems ſo unreaſonable, that, as I never had occaſion to hear it corroborated by the report of the natives, I cannot vouch for its being well founded.

† In the manner adverted to in the ſecond note page 15. And here cloſes, for the preſent, the literal extract I have made from ZEIRREDDIEN's performance, which, for diſtinction ſake, I have marked with inverted commas.

conſtructed by, the Mahommedan traders,* who, though not then amounting to a tithe of the general population, were much courted by the ſeveral Rajahs, and more eſpecially by the *Zamorin*, to frequent his port of Calicut, on account of the duty of ten per cent. that was levied on their trade.

XVI. The arrival of the fleets of the Portugueſe, the firſt under *Vaſco de Gama*, in the 904th year of the Higeree, (correſponding with the year of our Lord 1498,) and of that conducted by *Cabral*, a few years thereafter, with the negociations, jealouſies, and wars that enſued thereon, are next related by our author, in a manner eaſily enough reconcileable to the accounts of the ſame tranſactions already publiſhed throughout Europe. He aſcribes the Europeans reſorting to India, to their deſire to purchaſe pepper and ginger. Nor does he ſeek to conceal that, between them and the Mahommedan traders, a commercial jealouſy immediately ſprang up, which proved the cauſe of all the bitter wars that were afterwards carried on, by ſea and land, by the *Zamorins* and *Mahommedans* on the one part; and the Rajah of *Cochin* (to whoſe port the Portugueſe had ſailed, on their breach with the former Prince) and his *European* allies on the other; the former being afterwards reinforced from the Arabian Gulph by a large fleet fitted out under the command of *Ameer Hoſaine*, an officer in the ſervice of *Kaunis al Ghowry*, the then reigning Sultaun of Egypt; but theſe armaments failed of their object; and the *Ghowry* Prince was ſoon afterwards himſelf ſubdued by *Selim*, the Turkiſh Emperor: and of the treatment which the Mahommedan traders continued, in the mean time, to experience from the *Portugueſe*, the fol-

 lowing

* The principally current Malabar æra is ſtated in the account aſcribed to the Biſhop of Verapoli (as already quoted in the note page 2) to have been fixed from the building of the city of *Coulum*, (by us called Quiloan,) about twenty-four *cadums* (Malabar leagues) or eighty Britiſh miles, ſouth of Cochin. It was formerly very famous as the emporium of the coaſt, and founded in the 825th year of the Chriſtian æra.

lowing deſcription is literally taken from the tranſlation of NIZAMEDDIEN's Treatiſe.

1ſt. " The believers of Malabar were eſtabliſhed in the moſt deſirable and " happy manner, by reaſon of the inconſiderable degree of oppreſſion ex- " perienced from the rulers, who were acquainted with the ancient cuſtoms, " and were kind to, and protectors of, the Muſſulmans; and the ſubjects " lived ſatisfied and contented; but ſinned ſo, that God turned from them, " and did therefore command the Europeans of Portugal, who oppreſſed and " diſtreſſed the Mahommedan community by the commiſſion of unlimited " enormities, ſuch as beating and deriding them; and ſinking and ſtrand- " ing their ſhips; and ſpitting in their faces, and on their bodies; and pro- " hibiting them from performing voyages, particularly that to *Mecca*; and " plundering their property, and burning their countries and temples; and " making prizes of their ſhips; and kicking and trampling on their (the " believers) books, and throwing them into the flames. They alſo en- " deavoured to make converts to their own religion; and enjoined churches " of their own faith to be conſecrated; tempting people, for theſe objects, " with offers of money: and they dreſſed out their own women in the " fineſt ornaments and apparel, in order thereby to deceive and allure the " women of the believers. They did alſo put *Haji's*, and other Muſſulmans " to a variety of cruel deaths; and they reviled and abuſed with unworthy " epithets the Prophet of God; and confined the Mahommedans, and " loaded them with heavy irons, carrying them about for ſale, from ſhop " to ſhop, as ſlaves; enhancing their ill uſage on theſe occaſions, in order " to extort the larger ſum for their releaſe. They confined them alſo " in dark, noiſome and hedious dungeons; and uſed to beat them with " ſlippers; torturing them alſo with fire; and ſelling ſome into, and re- " taining others, in their ſervitude as their ſlaves. On ſome they impoſed " the ſevereſt taſks, without admitting of the ſmalleſt relief or exemption.

" Others they tranſported into Guzerat, and into the Concan, and towards " Arabia, being places which they themſelves uſed to frequent, in the view " either of ſettling or ſojourning therein, or of capturing veſſels. In this way " they accumulated great wealth and property, making captives alſo of women " of rank, whom they kept in their houſes till European iſſue was procured " from them. Theſe *Portugueſe* did in this manner alſo ſeize on many *Seyyuds*, " learned and principal men, whom they retained in confinement till they put " them to death; thus prejudicing and diſtreſſing the Muſſulmans in a thou- " ſand ways; ſo as that I have not a tongue to tell or deſcribe all the miſchiefs " and mortifications attendant on ſuch a ſcene of evil.

2d. " After this they exerted their utmoſt efforts (which they had, indeed, " from firſt to laſt) to bring the Muſſulmans within the pale of their religion; " and they made at length peace with them for a conſideration to be paid to " them of ten in the hundred.

3d. " The Mahommedans reſiding principally on the ſea-coaſts, it was " cuſtomary for the newly arrived *Europeans* (who uſed to reſort annually to " India at the appointed ſeaſons) deridingly to aſk the perſons ſettled of their " nation at the ſea-ports, whether, and why, they (theſe ſettled *Portugueſe*) had " not yet done away the appearance of theſe people the *Muſſulmans?* reviling " thereon their own chiefs for not aboliſhing the Mahommedan religion; in " the proſecution of which view the heads of the Portugueſe deſired the *Hakim* " of *Cochin* to expel the *Muſſulmans* from his city, promiſing thereon to " prove themſelves the means of his reaping double the profit which ac- " crued to him from their traffick; but the *Hakim* of *Cochin* anſwered, ' Theſe " are my ſubjects from days of old; and it is they who have erected my city; " ſo that it is not poſſible for me to expel them."

XVII. The

XVII. The war thus continued till the *Portugueſe*, who had been originally permitted to conſtruct forts at Cochin and Cannanore, obliged the *Zamorin* to admit of their erecting one alſo at Calicut.

XVIII. They had alſo made themſelves maſters of Goa from the *Adel Sahi* dynaſty of the *Bejapoor* Kings in *Decan*; nor could any of the ſhips of the Mahommedans ſail in ſafety to either gulph, without being furniſhed with *Chriſtian paſſes*.

XIX. In the *Hejira* year 931, anſwering to A. D. 1524-5, the Mahommedans appear, by ZEIRREDDIEN's narrative, to have (countenanced, no doubt, and probably actively aſſiſted, by their friend the *Zamorin*) been engaged in a barbarous war, or attack, on the *Jews* of *Cranganore*, many of whom our author acknowledges their having put to death without mercy; burning and deſtroying, at the ſame time, their houſes and ſynagogues, from which devaſtation they returned, and enabled their great protector, the *Zamorin*, to expel, in the courſe of the following year, the *Portugueſe* from *Calicut*.

XX. But the latter ſhortly afterwards re-eſtabliſhed themſelves in the vicinity of that capital, and were even permitted to build a fort within a few miles of it, at a place called *Shaliaut*, of which they are related to have retained poſſeſſion for upwards of thirty years, and till, in or about the year 1571, they were, after a long ſiege, compelled to capitulate; whereupon the *Zamorin* is ſtated by NIZAMEDDIEN to have ſo completely demoliſhed their fortreſs, as not to leave one ſtone of it ſtanding on another.

XXI. The *Portugueſe* proved, however, more permanently ſucceſsful in an acquiſition they made in the province or (at that time) kingdom of *Guzerat*; where, according to my author, they, in the year 943, or A. D. 1536-7, ob-

 tained

tained from *Behader Shah*, its monarch, (whom they are charged by ZEIRREDDIEN with having afterwards ſlain) the ceſſion of the fortreſs of Diu, of which they ſtill retain poſſeſſion.

XXII. The author, ZEIRREDDIEN, places within the following year the Portugueſe building a fort at Cranganore, and their ſucceſsful reſiſtance at Diu, to an expedition fitted out againſt them from Egypt, by command of the Ottoman Emperor *Solyman*, whoſe baſha, or commander, is repreſented to have retired in a diſcreditable manner from the conteſt.

XXIII. This author places ſubſequent to the Hejira year 963, A. D. 1556, a difference that enſued between the Portugueſe and *Ali Rajah*,* the Mahommedan chief of Cannanore; and to whom belonged alſo the Laccadivian Iſlands, which, on this occaſion, ZEIRREDDIEN charges the Chriſtians with having barbarouſly ravaged; and towards the cloſe of his hiſtorical detail, he inſerts the following notice of the reſult of the long and bloody competition between them and the Mahommedans for the trade of the eaſt.

1ſt. "It pleaſing the Almighty to try the fidelity of his ſervants, he gave "ſcope to the Portugueſe, and beſtowed on them the maſtery of a number "of ſea-ports; ſuch as thoſe in Malabar, and in Guzerat, and in Concan, &c. "and they became rulers in all the towns and cities, and ſwarmed therein, and "reared

* The head of this principality of Cannanore (of which a female, known by the name of the *Beeby*, is the preſent repreſentative) is alſo called *Ali Rajah*, which, in the Malabar tongue, may be interpreted "Lord of the Sea;" a diſtinction affected (as I have heard) from this family's having long poſſeſſed the Laccadives, whence they have occaſionally invaded the Maldives; the *Badſha*, or monarch, of which is ſaid to be to this day jealous of them on that account.

" reared fortreſſes in Hurmuz, (Ormus,) Saket, Diu Mehel, and in Sumatra, " and at Malacca, and Milkoop; and at Mylatoor, and Nagputtun, and Aju- " ram, and in the ports of Shoulmundul, (Coromandel,) with many alſo in " thoſe of Ceylon. They navigated alſo as far as China; and their commerce " extended throughout all theſe and other ports; and the Mahommedan mer- " chants ſunk under their ſuperior influence, and became obedient to them " and their ſervants; having no longer any power to trade themſelves, unleſs " in ſuch articles as the Portugueſe did not much like to deal in: nor re- " quires it to be ſuggeſted, that their choice fell upon thoſe commodities that " yielded the largeſt profit; all which they excluſively reſerved, without al- " lowing any one elſe to trade therein."

XXIV. The traveller, CÆSAR FREDERICKE, having been on the Malabar coaſt about the time that ZEIRREDDIEN's hiſtory cloſes, it may tend to contraſt the preceding ſtate of facts according to our *Mahommedan* author's view of them, to ſubjoin his *Chriſtian* cotemporary's account of ſome of the ſame circumſtances.

XXV. Treating of Barcelore, a town on the northern part of the Malabar coaſt, FREDERICKE continues, (in the words of his old Engliſh tranſlator,) " and from thence you ſhall go to a city called Cananore, which is a harque- " buſh-ſhot diſtant from the chiefeſt city that the King of Cananore hath " in his kingdom, being a King of the *Gentiles*; and he and his are very " naughty and malicious people; always having delight to be in war with the " *Portugals*; and when they are in peace, it is for their intereſt to let their " merchandize paſs. From Cananore you go to Cranganore, which is another " ſmall fort of the Portugals, in the land of the King of Cranganore, which " is another King of the Gentiles, and a country of ſmall importance, and " of an hundred and twenty miles, full of thieves, being under the King of

" of Calicut, (the *Zamorin*,) a King alſo of the Gentiles, and a great enemy " to the Portugals, with whom he is always in war; and he and his country " are the neſt and reſting for ſtranger thieves, and thoſe be called *Moors of* " *Carpoſa*, becauſe they wear on their heads long red hats; and thieves part " the ſpoils that they take on the ſea with the King of Calicut, for he giveth " leave unto all that will go a roving, liberally to go; in ſuch wiſe that all " along that coaſt there is ſuch a number of thieves, that there is no ſail- " ing in thoſe ſeas, but with great ſhips, and very well armed; or elſe they " muſt go in company with the army of the Portugals."

XXVI. Upon the decline of the *Portugueſe* power, the *Dutch*, eſtabliſhing themſelves on the Malabar coaſt, took from the former the fortreſſes of Cannanore and Cochin: and about the ſame period, or as early as 1664, the *Engliſh Eaſt India Company* appear, by the records at Tellicherry, to have begun to traffick in the *Zamorin*'s dominions, in the ſouthern diſtricts of Malabar, as well as to have obtained, in 1708, in the northern parts of the ſame coaſt, a grant of the fort of Tellicherry, from the *Colaſtry*, or *Cherical Rajah*, the limits of which they ſoon extended on the ſouth ſide, by the ſucceſsful termination of a warfare, which they had in 1719 with the *Corngotte Nayr*, who alſo agreed that they ſhould enjoy the excluſive trade of pepper duty free within his country; an acquiſition which was followed, in 1722, by their obtaining a ſimilar excluſive previlege (with a reſervation in favour of the *Dutch* trade alone) throughout the more extenſive country of Cherical: and in 1725 they concluded a peace with the Rajah of the diſtrict of Cartinad; by which they became entitled to the pre-emption of all the pepper and cardamums it produced; acquiring alſo ſimilar excluſive privileges in Cottiote in 1759: and in this manner ſo rapid appears to have been the extenſion of the power and influence of the Britiſh Nation on that part of the coaſt, that in 1727 the Company's ſervants at Tellicherry mediated a

peace between the Kings of Canara and Colaſtria, under which circumſtances they added, in 1734-5, the iſland of Dermapatam, and the fort of Madacara, to their poſſeſſions, together with the entire laſt mentioned iſland in the year 1749, with power to adminiſter juſtice therein, on the ſame footing as at Tellicherry: and they appear, in ſhort, to have been from this period courted, reſpected, and feared, by all the Rajahs and Chiefs within the limits of the ancient Colaſtrian kingdom, with which their good intelligence ſuffered, however, a temporary interruption, in conſequence of the Company's Government having, in 1751, entered into a treaty with the Canareſe King of Bednore; whereby, for the conſideration of a factory at Onore, and a freedom of trade in his dominions, they agreed to aſſiſt him in the proſecution of that Prince's then meditated continuation of hoſtilities againſt the country of Colaſtria: but the former harmony was again eſtabliſhed in 1757, when a new treaty of mutual defence was concluded between the Company and the Rajah of Cherical; and ſuch appears to have been in general the progreſs of the Britiſh influence, that the *Engliſh Eaſt India Company* became every where entitled to ſuperior or excluſive advantages in purchaſing the valuable products of the country, viz. pepper, cardamums, and ſandal-wood; and at laſt obtained, in 1761, from the Rajah of Cherical, the further important privilege of collecting for their own behalf, the cuſtom-houſe duties and tolls within their own territories, for the moderate conſideration of a fixed quit-rent of 21,000 ſilver fanams, or 42,000 rupees per annum, to be paid to his government: in addition to all which, he and the other Rajahs had by this time ſucceſſively yielded up their right to all wrecks or ſtranding of the Company's veſſels or property; an article which, with the cuſtoms on merchandize, conſtituted two of the moſt inherent and acknowledged rights of the Malabar Princes at that period.

XXVII. For otherwiſe thoſe Rajahs' rights in general did not then extend to the exaction of any regular, ſettled, or fixed revenue from their ſubjects, the original conſtitution of their government only entitling them to call on their vaſſals, the *Bráhmen* and *Nayr* landholders, for military ſervice: but, although this general exemption from any land-tax is ſtated to have thus univerſally prevailed, in the early times of the Rajahs' governments, it is, however, allowed, that they were occaſionally ſubject to ſome contribution for the extraordinary exigencies of defence againſt the invaſion of foreign enemies, ſuch as the Canareſe and Portugueſe: and in Cherical, and alſo in the *Samoory's* dominions, the cuſtom was at length introduced, or, perhaps, rather continued, from the earlieſt period, (as intimated in Section VI.) of the Rajahs' levying from the lands (excepting, perhaps, thoſe appertaining to the temples) a ſettled revenue or income, in money or kind, equal to one fifth of the produce: and the Rajahs held alſo large domains of their own, which, with the cuſtoms on trade, and mint duties, might have been ſufficient for the maintenance of their ordinary ſtate; more eſpecially as, in addition to theſe rights, they, under the head of *Pooreſhandrum*, exacted from the *Mapillas* (i. e. the deſcendants of the Muſſulmans*) a ſhare of the eſtates of all

 deceaſed

* Of the term *Mahapilla*, or *Mapilla*, I have heard many derivations; one of which was given me by a *Cauzy* of their own tribe, who ſcrupled not (whether jocularly, or otherwiſe, I cannot determine) to combine it of the two *Hindvee* words *Mah*, mother, and *Pilla*, a puppy; intimating, that it was a term of reproach fixed on them by the Hindoos, who certainly rate them below all their own creditable caſts, and put them on a footing with the *Chriſtians* and *Jews*; to the former of whom (if not to both) they apply the ſame name: and thus the Chriſtians of St. Thomas are diſtinguiſhed by the name of the *Syrian Mapillas*: but I rather confide in the more reaſonable derivation I obtained thro' Lieut. MAC LEAN's reſearches, viz. that the term is indeed compounded of *Maha*, or *Mahai*, and *Pilla*, though not in the aforeſaid *Cauzy's* offenſive ſenſe, but as a denomination applied to the firſt ſtrangers who ſettled in Malabar, by reaſon of their being ſuppoſed to come from Mocha, which in Malabar

deceaſed perſons; whilſt, under the donation of *Cheradayam*, they derived a conſiderable caſual, though conſtant, revenue from the fines levied on crimes and offences; as well as from another article, called *Chungadum*, or protection money, received from the ſupport and countenance granted by one Rajah to the ſubjects of another; and from the eſcheats of the eſtates of thoſe of their Hindu ſubjects who died without heirs; and from *Talapanam*, (which was a kind of poll-tax;) and from the preſents made by their ſubjects on the two annual feſtival days of ONAM and VISHOO; and other certain annual offerings; together with a few profeſſional taxes paid by diſtillers, weavers, and fiſhermen, among the lower caſts: beſides all which, they claimed, as royalties, all gold ore *, and all elephants, and the teeth of that animal; and all game, together with cardamum and *Sagwan*, or teek trees, and bamboos, and honey, and wax, and the hides of tigers, and the fins of all ſharks caught, (forming a conſiderable article of trade,) and the wreck (as above ſpecified) of all veſſels ſtranded on their coaſts.

XXVIII. The Chiefs who (under the denomination of the Rajahs, with the exception of a few independent *Nayr* landholders) have thus, for ſo long a ſucceſſion of centuries, governed Malabar, are moſtly of the *Khetrie*, or ſecond tribe of Hindus; but the *Cherical* and *Samoory* (who were the two principal families in point of extent of dominions) are of the *Samunt* or *Erary*, (i.e. cowherd caſt;) as is alſo the Rajah of Travancore, who is a branch of the original *Colaſtrian* or *Cherical* family: And the mode of ſucceſſion that has time out of mind been eſtabliſhed among theſe Princes (which I the rather add here, as ZEIRREDDIEN has not otherwiſe than by inference touched at all on this part

Malabar is called *Mahai*; whilſt *Pilla* is alſo another Malabar word for a child, or orphan; and from theſe two words the Mapillas are ſaid to take their name of "Children or Natives, (or perhaps Outcaſts) of Mahai, or Mocha."

* Gold duſt is found in a hill called *Nellampoor Mella*, in the talook of *Ernaar* or *Ernaad*.

part of the general ſubject) is not, as in the reſt of India, in favour of their own ſons and children, but (as noticed by ZEIRREDDIEN in reſpect to the *Nayrs*) of their brethren in the female line, and of the ſons of their ſiſters, who do not marry according to the uſually received ſenſe of that term in other parts of the world, but form connections of a longer or ſhorter duration, according to the choice of the parties, for the moſt part with Malabar *Brâhmens*, (called *Namboories*,*) and who differ eſſentially from others of that caſt throughout the reſt of India,) by whom are thus propagated the heirs to all the Malabar principalities, without, however, the reputed fathers having, or pretending to, any paternal claim to the children of theſe tranſitory engagements, who, divided under each Rajahſhip into diſtinct branches, called *Quilon*, or *Kolgum*, or *Kollum*, i. e. families or palaces, ſucceed (as has been already intimated) to the chief Rajahſhip, or ſupreme rule, by ſeniority; whilſt the next ſenior, or heir-apparent, is ſtiled the firſt; and the others, or the heirs in expectancy, are (as for inſtance, in the *Samoory's* family) diſtinguiſhed by the titles of the ſecond, third, fourth, or fifth Rajahs; as far down as which they are called general Rajahs; and being deemed more eſpecially to belong to the ſtate, form a kind of permanent council to the *Zamorin*; whilſt all thoſe males of the family who are more than five removes from the ſenior, or

* *Namboory*, or *Namboodire*, is ſaid by ſome (according to the explanation furniſhed to me by Lieutenant MAC LEAN) to be a corruption of *Nambie*, applicable to thoſe whoſe privilege it is to attend to and perform the religious ſervice in the temples; whilſt others aſſert that the name is derived from *Nama*, and *Poogia*, or *Poogikanna*, to invoke, pray, or perform religious ceremonies. *Nambadie*, or *Nambidie*, a claſs of inferior *Brâhmens*, ſaid to have become degraded from their anceſtor, a *Namboorie*, having been employed by SHERMANOO PERMALOO, and the *Malabarians*, to cut off by treachery (which he effected) CHORA, a former *perumal*, or governor, whom KISSEN RAO had ſent back with an army to ſupercede SHERMANOO, as intimated in Section VII. And beſides theſe, there are above a dozen more ſubdiviſions of the *Brâhmenical* tribe.

or Zamorinſhip, continue to be diſtinguiſhed as firſt, ſecond, or third Rajah of ſuch a Kolgum or palace, (meaning the houſe or branch of the family they were born in,) and riſe thus, as it were, in their own corps, till, by reaching within four or five of the head, they become heirs general: and as from this mode of ſucceſſion the chief Rajah is generally ſuperannuated, either the heir-apparent, or one of the younger Rajahs, is often veſted, under the title of Regent, with the active part of the adminiſtration.

XXIX. In this manner did the *Zamorins'* family, in particular, and the other Rajahs of *Malabar* in general, continue to carry on their government till the year 1766, when HYDER ALI KHAN made the deſcent on, and conqueſt of, their country;* of the manner and immediate conſequences of which, as far as regards his own houſe, the following deſcription was given to me by the preſent *Samoory* or *Zamorin*.

XXX. " In the Malabar year 941, A. D. 1765-6, HYDER ALI KHAN " came with an army of fifty thouſand men into *Mulyalum*, or *Mullewar*, " (both terms meaning the Malabar country,) and waged war with my maternal " uncle; and having defeated him, took poſſeſſion of his dominions. My un- " cle ſent a vakeel (or ambaſſador) to HYDER ALI KHAN, to requeſt that " his country might be reſtored to him, and agreed to pay any tribute which " might be ſettled. *Hyder* gave a very favourable reception to the ambaſſa- " dor, but informed him, that, as he could not place entire reliance on his " word, he propoſed himſelf to depute two perſons, by name SREE NEWAUS " RAO and MOOKUT RAO, to the Rajah, to communicate his views; adding, " that the Rajah might truſt to his honour, and go to meet him, when he " would ſettle with him the terms that might be concerted between them. " The vakeel came back with *Hyder's* men to the late Rajah, and informed him " of

* This is to be underſtood with the exception of *Paulghaut*, which HYDER had poſſeſſed himſelf of four or five years before.

" of what had paſſed; whereupon the Rajah intimated his apprehenſions of " *Hyder*, whom he ſpoke of as a man of a quarrelſome diſpoſition, and who " had diſgraced many perſons of high rank, and who would probably be " diſpoſed to inflict ſome mark of diſgrace upon him alſo; wherefore he (the " Rajah) declared, that he would place his reliance not ſo much on *Hyder*, " as upon the aſſurances from his two agents, who, being both *Brâhmens*, " he would, on their ſwearing by their *Brâhmenical threads*, by the ſalgram, " (a ſtone ſacred among the *Hindus*,) and by their ſwords, that he ſhould " return in ſafety, conſent to accompany them, to have an interview with " *Hyder*; to all which they agreed; and as *Hyder's* army was at Toorſhery, the " Rajah, my uncle, went with *Sree Newaus Rao* and *Mookut Rao* to meet " *Hyder*, who advanced to *Coorumnar*, where the meeting took place.

2d. " During the interview, they converſed about the country: But *Hyder* " ſoon broke off the conference, by demanding of the Rajah a crore of gold " mohurs; upon which the latter aſſured him, if he were to ſell the whole of " the Calicut country, he could not get near that ſum for it; but that he " would deliver the whole of his treaſure, and other property, and pay him " as much as was in his power: yet *Hyder* was not ſatisfied with this offer, " but cauſed the Rajah to be ſeized, and impriſoned; and ſent him under a " guard of five hundred horſe, and two thouſand infantry, to the fort of " Calicut; and the Rajah was confined in his own houſe without food, and " was ſtrictly prohibited from performing the ceremonies of his religion; " and as he thought that *Hyder* might inflict ſome further diſgrace upon " him, either by cauſing him to be hanged, or blown from a gun, the Rajah " ſet fire to the houſe with his own hand, and was conſumed in it."

XXXI. This firſt requiſition of Malabar by the late *Hyder Ali Khan* was not of any long duration; for the *Zamorin*, and other Rajahs, took advantage

vantage of his entering into war with the *Engliſh Eaſt India Company* in 1768, reinſtate themſelves: and they maintained poſſeſſion till 1774, when *Hyder*, deſcending the Ghauts a ſecond time with an army into the northern parts, and ſending another, under *Sree Newaus Rao* through Paulghaut into the ſouthern diviſion, the Princeſs of the *Samoory's* family again fled into Travancore: and *Hyder's* direct and immediate government and adminiſtration appear from that period to have permanently pervaded, and become, in ſome degree, eſtabliſhed, throughout all the ſouthern diviſion of Malabar.

XXXII. For ſome northern chieftains do not appear to have, on *Hyder's* firſt or ſecond conqueſt, forſaken their countries, but agreed to become his tributaries; whilſt the ſouthern diſtricts became a prey to almoſt conſtant diſſenſions, ariſing from the reſiſtance and troubles which the Rajahs of the *Samoory's* family never diſcontinued to excite againſt the authority of *Hyder's* government, which was unable either effectually to quell theſe continued diſturbances, or to puniſh, or even to expel, the authors of them; ſo that his officers were at length obliged to purchaſe that quiet which they could not command, by ſtipulating, in 1779, with one of the repreſentatives of the *Samoory's* houſe, to allow him to levy a moderate ratable ceſs from the country for his own ſupport; the effects of which conciliation could, however, hardly have produced any beneficial effects to the parties, or the inhabitants, before they were again embroiled by the conſequences of the attack on and ſiege of Tellicherry, in 1779-80, and of the general war that followed; during which (that is, after the raiſing of the ſiege in queſtion) the Rajahs of the *Samoory's* houſe took all the part in their power in favour of the Britiſh arms, and conſiderable ſucceſſes attended their joint efforts in the capture, in 1782, of Calicut, and other places: but, by the peace of 1784, the Malabar countries being again given up, the ſouthern

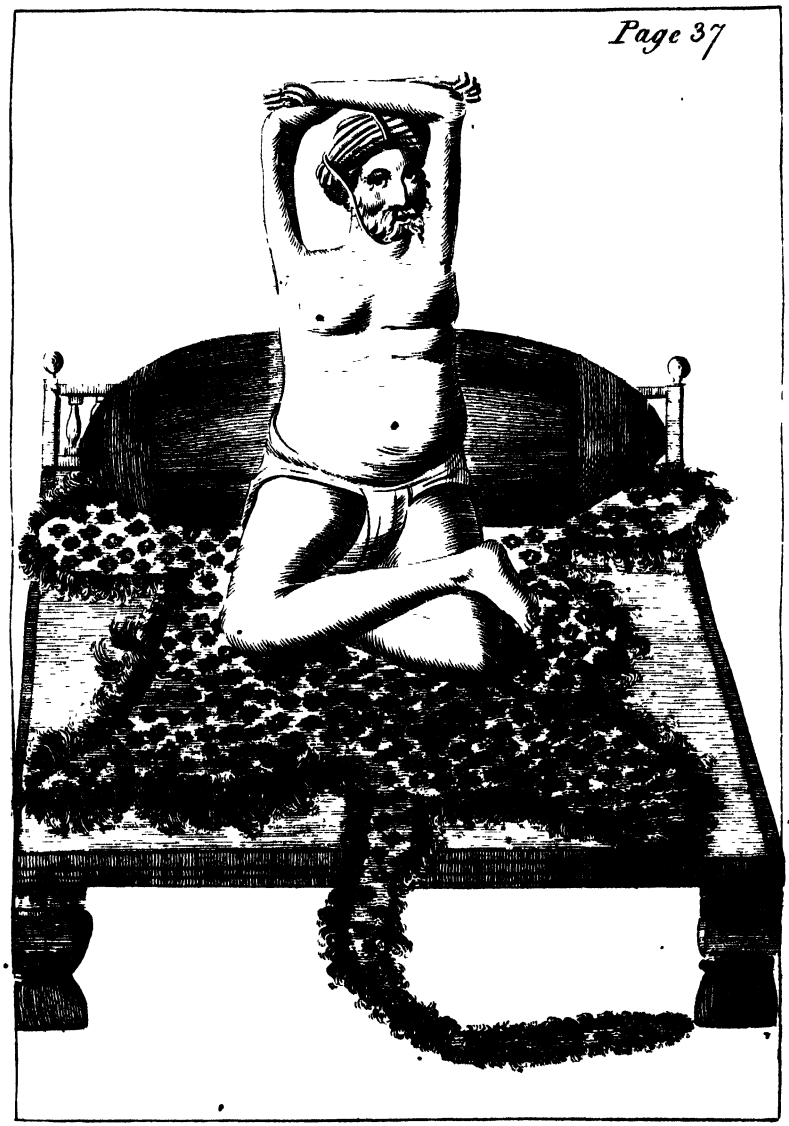
as well as northern Rajahs were left at TIPPOO's mercy, which did not, however, prevent ſome of the *Samoories* from ſtill lurking in, and occaſionally exciting alarm and diſturbances, throughout the former part of theſe diſtricts; ſo that the officers of TIPPOO's government were obliged, in a like manner as their predeceſſors under that of his father, to induce this family to a peaceable conduct, by beſtowing a penſion in *Jaghire* upon RUVEE VURMA, one of the moſt active of its members; which might, perhaps, have led to a cloſer union between the exiled *Zamorin* and the Myſore government, had not the negociations to that end been interrupted in conſequence of a reſolution formed by TIPPOO (in the combined view of indulging his zeal as a *Mahommedan*, and of, at the ſame time, rooting up, as he fondly might imagine, the cauſes of that averſion which the *Malabar Hindus* had hitherto ſhewn to his government) to attempt the forcible converſion of all his *Hindu* ſubjects in *Malabar* to the *Muſſulman* faith; for which purpoſe, after ineffectually trying in perſon the effects of perſuaſion, in a progreſs that he made into that country in April, 1788, he directed his officers of Calicut, to begin by ſeizing on the *Bráhmens*, and to render them examples to the other claſſes, by enforcing circumciſion on them, and compelling them to eat beef; and accordingly many *Bráhmens* were ſeized in or about the month of July, 1788, and were thus forcibly deprived of their caſts; whilſt others ſought for ſhelter with the Rajahs of the *Samoory*'s family, two or three of whom were then within the Calicut diſtricts; and TIPPOO's having himſelf made ſimilar conſtrained converſions of a Rajah of the family of *Perepnaad*, (one of the ſouthern *talooks*,) and of TICHERA TEROOPAR, a principal *Nayr* of *Nelemboor*, in the ſame ſouthern diviſion of that country, together with ſome other perſons, whom he had for various cauſes carried up with him into Coimbitoor, theſe combined circumſtances, and the return of the above named victims to his bigotry, ſome ſhort time thereafter into *Malabar*, ſpread conſiderable alarm; and the injured

parties, as well as the great body of *Nayrs* and *Hindus*, who juſtly feared for what might happen to themſelves, rallied around, and looked principally up to, that Prince of the *Samoory*'s family, called the younger RUVEE VURMA, (who, with his elder brother, of the ſame name, had ſome years before forced HYDER's officers to purchaſe their temporary and doubtful neutrality,) through whoſe aſſiſtance upwards of thirty thouſand *Brâhmens* (including their wives and families) eſcaped from July to November, 1788, from the Calicut diſtricts into Travancore; beſides which, reſenting theſe oppreſſions by TIPPOO on thoſe of his ſect and religion, RUVEE VURMA proceeded to open hoſtilities with the officers of TIPPOO's government, and proving victorious, and being aſſiſted by the *Nelemboor* and *Perepnaad* converts, as well as by the *Nayrs* in general, and even by ſome of the *Mapillas*, a general inſurrection took place throughout the ſouthern diſtricts, and the inſurgents becoming maſters of the open country, inveſted Calicut, ſo that TIPPOO found it neceſſary to diſpatch *Monſieur Lally* with a ſtrong force to its relief, on whoſe arrival the Rajah retreated, and was afterwards attacked in different places, without, however, being driven quite out of the field; inſomuch that TIPPOO, fearing, perhaps, for the ſtability of his dominion in *Malabar*, followed *Monſ. Lally* in perſon, in January or February, 1789; at which period his deſigns were generally reported to aim at the entire converſion, or extirpation, of the whole race of Rajahs, *Nayrs*, and other *Hindus*; many of whom were accordingly ſeized on, and circumciſed; whilſt others eſcaped; or, failing in the attempt, put themſelves to death, to avoid loſs of caſt; one affecting inſtance of which is related of the Rajah of Cherical, who, finding that he was alſo to be circumciſed, attempted to eſcape; and being purſued by TIPPOO's troops, and ſeeing no likelihood of being able to maintain any long reſiſtance againſt them, he, after providing for the ſafety of his ſiſter and her ſon, by ſending them off to Travancore, preferred for himſelf a voluntary death to the ignominy that he knew

knew awaited his ſurvivance; and he accordingly died either by his own hand, or by that of a friendly *Nayr*, whom he is ſaid to have required to perform this laſt mournful office for him; whereupon TIPPOO, diſappointed of his prey, ſeized on the dead Rajah's effects and country, which he continued to hold till finally deprived, by the *Britiſh* arms, of that, and the greater part of his Malabar territories, by the ſucceſsful war that terminated by the peace, and his conſequent ceſſion of that country, in the year 1792; ſince which the *Zamorin*, and all the other Rajahs, have returned to their diſtricts; into which they have been re-admitted, in full ſubordination to the Company's Government, which can alone beneficially conduct the adminiſtration of that coaſt in its preſent circumſtances, and adminiſter equal and impartial juſtice to the two great claſſes of *Hindus* and *Mahommedans*, of which the preſent ſociety conſiſts; and who, ſtill ſmarting under the impreſſion of the injuries they reciprocally inflicted and ſuffered during the turbulent and calamitous period of the *Myſore* dominion, can hardly be deemed to be in temper to qualify either to ſtand towards each other in the relation of ſovereign and ſubject; more eſpecially as the authority would have reverted, and the conſequent retaliation have no doubt been exerciſed, (as was in ſome inſtances at firſt attempted,) by thoſe who had been, during the laſt twenty years, the inferior and ſuffering party; for the *Mapillas*, or *Mahommedans*, finding themſelves, during the preceding diſaſtrous and unſettled adminiſtration of the religion of their new Prince, had availed themſelves of that powerful circumſtance in their favour, to moleſt, deſpoil, and (as far as in them lay) to ruin their former *Hindu* ſuperiors; ſo that the bitterneſs of the enmity between the two ſects had riſen to the higheſt pitch of rancour, and will no doubt require a courſe of years to ſubſide, or to give place to a re-eſtabliſhment of the ancient amity.

XXXIII. It has been already intimated, that the *Mapillas* in the ſouthern diſtricts exceed in numbers the remaining race of *Hindus*; and although many of them, who inhabit the towns on the coaſt, are induſtrious and quiet ſubjects, yet there is a large proportion, called the *Jungle Mapillas*, who, occupying the interior receſſes near to the hills, have been ſo long inured to predatory habits, that ſome elapſe of time muſt be required fully to reclaim them.

XXXIV. I have thus ſubmitted to the Society the beſt account which, from the materials in my poſſeſſion, I have been able to draw up of the Hiſtory and Manners of the Inhabitants in the new acquiſition of the *Eaſt India Company*, excepting as far as regards the *Neſtorians*, and other *Chriſtians*, and the *Jews*; the major part of both of whom living to the ſouthward of what are properly the *Britiſh* limits, I have not hitherto had any ſufficient opportunity of acquiring minute or accurate information reſpecting them.



II.

AN

ACCOUNT OF TWO FAKEERS,

With their Portraits.

By JONATHAN DUNCAN, Eſquire.

I BEG leave to lay before the Society the accompanying Pictures of two *Fakeers*, now living at *Benares*, which I had drawn there from the life. The firſt is named PURANA POORI, or (as uſually pronounced in Hindvee) PRAUN POORY, a *Sunyaſſy*, diſtinguiſhed by the epithet *Oordhbahu*, from his arms and his hands being in a fixed poſition above his head; and as he is a very intelligent man, and has been a great traveller, he conſented, in the month of May, 1792, to gratify my curioſity, by allowing to be committed to writing, by a ſervant of mine, from his verbal delivery in the Hinduſtan language, a relation of his obſervations in the various countries into which he has penetrated; but as his account is too long for inſertion in the *Aſiatick Reſearches*, (ſhould it even be deemed to merit a place in ſo reſpectable a repoſitory,) I have here extracted the principal parts of it, as an accompaniment to the portrait; having only farther to premiſe, that I have the utmoſt reliance on our traveller's not deſigning to impoſe in any part of his narrative; but

but allowance muſt be made for defects of memory, in a relation extending through ſo many years, and comprehending ſuch a number of objects.

II. PRAUN POORY is a native of *Canouge*, of the *Khetry* or *Raujepoot* tribe. At nine years of age he ſecretly withdrew from his father's houſe, and proceeded to the city of Bethour, on the banks of the Ganges, where he became a Fakeer, about the time (for he cannot otherwiſe fix the year) of MUNSOOR ALI KHAN's retreat from Dehli to Lucknow, and two or three years before the ſack of Mat'hura by AHMED SHAH ABDALLI; which two events are in SCOTT's "*Hiſtory of the Dekkan*," related under the years 1751-2 and 1756; within which period he came to *Allahabad* to the great annual meeting of pilgrims, where hearing of the merits attached to what he deſcribes as the eighteen different kinds of *Tupiſya*, or modes of devotional diſcipline, he made choice of that of *Oordbhahu*, above noticed; the firſt operation of which he repreſents to be very painful, and to require preparation by a previous courſe of abſtinence.

III. He then ſet out to viſit Ramiſher, oppoſite to Ceylon, taking his route by Kalpi, Oujeine, Burahanpoor, Aurungabad, and Elora; the ſurpriſing excavations at which place he notices: and croſſing the Godavery at Tounker, he paſſed by Poona, Settara, and various other intermediate towns, to Bednore, of which a *Ranny*, or Princeſs, was then the ſovereign; whence he went on to Seringapatam, then in poſſeſſion of its Hindu Princes, whom he names NUND RAUJE and DEO RAUJE; leaving which, he deſcended through the Tamerchery Paſs into Malabar, and arrived at Cochin; whence he croſſed the Peninſula through a deſart tract of country to Ramiſher; after viſiting

viſiting which, he returned up the Coromandel coaſt to the temple of *Jaggernauth* in Oriſſa, ſpecifying all the towns on this part of his route, which are too well known to require to be here enumerated.

From Jaggernauth our traveller returned by nearly the ſame route to Ramiſher, whence he paſſed over into *Silan*, or Ceylon, and proceeded to its capital, which ſome, he obſerves, call *Khundi*, (Candi,) and others *Ncora*; but that KHUNDI MAHA RAUJE is the Prince's deſignation; and that further on he arrived at Catlgang, on a river called the Manic Gunga, where there is a temple of CARTICA, or CARTICEYA, the ſon of MAHADEO, to which he paid his reſpects, and then went on to viſit the *Sreepud*, or, "The Divine Foot," ſituated upon a mountain of extraordinary height; and on one part of which there is alſo (according to this Fakeer's deſcription) an extenſive miry cavity, called the *Bhoput Tank*, and which bears alſo the name of the Tank of RAVAN, or RABAN, (the *b* and *v* being pronounced indifferently in various parts of India,) one of the former Kings of this Iſland, well known in the Hindu legends for his wars with RAMA, and from whom this *Tapa*, or Iſland, may probably have received its ancient appellation of *Taprobane*, (i. e. the Iſle of RABAN.) But, however this may be, our traveller ſtates, that, leaving this tank, he proceeded on to a ſtation called *Seeta Koond*, (where RAMA placed his wife SEETA, on the occaſion of his war with her raviſher RAVAN,) and then reached at length to the *Sreepud*, on a moſt extenſive table or flat, where there is (he obſerves) a *bungalow* built over the print of the divine foot; after worſhipping which, he returned by the ſame route.

V. From Ceylon this *Sunyaſſy* paſſed over among the Malays, whom he deſcribes as being *Muſſulmans*; but there was one capital Hindu merchant,

a native of Ceylon, ſettled there, at whoſe houſe he lodged for two months, and who then procured him a paſſage to Cochin, on the coaſt of Malabar, up which he proceeded by land; particularizing, with a wonderful tenacity of memory, the ſeveral towns and places through which he paſſed, with their intermediate diſtances: but as theſe are already well enough deſcribed in our own books of geography, his account of them need not be here inſerted.

VI. In this direction he proceeded along the coaſt to Bombay, and paſſed on to Dwarac Tatta Hingulaj, or Henglaz, and through Multan, beyond the Attock, whence he changed his route to the eaſtward, and arrived at Hurdewar, where the *Ganges* enters the plains of Hinduſtan; and from that place of *Hindu* devotion he again departed in a weſterly direction, through the upper parts of the Punjaub to Cabul, and thence to Bamian, where he mentions with admiration the number of ſtatues that ſtill exiſt, though the place itſelf has been long deſerted by its inhabitants.

VII. In the courſe of his rambles in this quarter of the country, he fell in with the army of AHMED SHAH ABDALLI, in the cloſe vicinity of Ghizni; and that King, having an ulcer in his noſe, conſulted our Fakeer, to know if, being an Indian, he could preſcribe a remedy for it: on which occaſion the latter acknowledged that, having no knowledge of ſurgery or medicine, he had recourſe to his wits, by inſinuating to the Prince, that there moſt probably did ſubſiſt a connexion between the ulcer and his ſovereignty, ſo that it might not be adviſable to ſeek to get rid of the one, leſt it ſhould riſk the loſs of the other; a ſuggeſtion that met (he adds) with the approbation of the Prince and his Miniſters.

VIII. PRAUN

VIII. PRAUN POORY afterwards travelled through *Khoraſan*, by the way of Herat and Muſh-hed, to Aſtrabad, on the borders of the Caſpian Sea, and to the Maha or Buree (i. e. larger) Jowalla Mookhi, or Juâla Mûchi, terms that mean a "Flaming Mouth," as being a ſpot in the neighbourhood of Bakee, on the weſt ſide of the ſea in queſtion, whence fire iſſues; a circumſtance that has rendered it of great veneration with the Hindus; and PRAUN POORY adds, that locally it is called *Dagheſtan*, a word which I underſtand to mean in *Sanſcrit*, "The Region of Heat;" though the cauſe is candidly aſcribed by our traveller to the natural circumſtance of the ground being impregnated with *naphtha* throughout all that neighbourhood.

IX. After ſojourning eleven months at this Jowalla Mookhi, he embarked on the Caſpian, and obtained a paſſage to Aſtrachan; where he mentions to have been courteouſly received by the body of Hindus reſiding in that place.

X. PRAUN POORY next proceeds to notice, that a river (meaning, no doubt, the Volga) flows under Aſtrachan, and is, he ſays, frozen over, ſo as to admit of paſſengers travelling on it during four months in the year; and thence, he mentions, in eighteen days journey, he proceeded to Moſcow, the ancient capital of Ruſſia, (the Sovereign of which was, he obſerves, a *Beeby*, or Lady,) and that he halted there during five days in the Armenian *Seray*; and he takes notice that there is an immenſe bell in this city, under which a hundred perſons may find room to ſtand; adding, that he has heard, in a month's journeying beyond Moſcow, a traveller may reach Peterſburgh, and thence get to Great Britain.

XI. But PRAUN POORY proceeds no farther than Moſcow, from which place he returned by Aſtrachan, and paſſed through Perſia, by the route of

Shamaki, Sherwaun, Tubrez, Hamadan, and Iſpahan; in which capital he ſojourned during forty days, and then paſſed on to Shirauz; where he arrived during the government of KERIM SHAH, whom he deſcribes as being then about forty years of age, as far as he could judge from an audience he had of him; and there were, he adds, two Engliſh gentlemen (one of whom he calls Mr. LISTER) at this King's court at the period of his viſiting it.

XII. Embarking at Abooſheher, on the ſouthern coaſt of Perſia, he reached the Iſle of *Kharek*, then governed by a chief called MEER MANNA, who had, he obſerves, taken it from the *Dutch*, and whom he repreſents as a chieftain living by carrying on a warfare againſt all his neighbours; and he mentions ſeveral Hindus as being ſettled here. He next arrived at the iſlands called *Bahrein*, on the coaſts of which pearls are, he ſays, found; whence re-embarking for *Buſſorah*, the veſſel he was in was met and examined, and again releaſed, by the *Bombay* and *Tartar* grabs, then carrying on hoſtilities (as he underſtood) againſt SOLYMAN, the Mahommedan chief of the Bahrein Iſles. After this occurrence our traveller arrived at *Buſſorah*, a well known town and ſea-port, in which he found a number of Hindu houſes of trade, as well as two idols or figures of VISHNU, known under his appellations of GOVINDA RAYA and CALYANA RAYA; or, according to the vulgar enunciation, and PRAUN POORY's pronunciation of their names, KULYAN Row and GOBIND Row.

XIII. After an ineffectual attempt to penetrate up the Tigris to Baghdad, he returned to Buſſorah, whence deſcending the Perſian Gulph, he arrived at Muſcat, where he met alſo a number of *Hindus*; and from that place he reached Surat. From hence he again proceeded by ſea to Mokha, where alſo he found a number

number of Hindus; and he thence returned into India, landing on its weſt coaſt, in the port of Sanyanpoor, ſituated, I ſuppoſe, towards or in the Cutch or Sinde countries.

XIV. From this port he journeyed to Balkh (where he alſo mentions Hindus being ſettled) and to Bokhara, at which he notices having viewed the famous *Derjah* of KHAJA CHESTEE, and the loftieſt minar or ſpire he has ever ſeen. From this place, after twelve days journey, he arrived at Samarkand, which he deſcribes as a large city, having a broad river flowing under it: and thence our traveller arrived, after a ten days journey, at Budukhſhan, in the hills around which rubies are, he ſays, found; whence he travelled into Caſhmir; and from that paſſing over the hills towards Hinduſtan, he came to the Gungowtri, or "Deſcent of the Ganges," where there is, he obſerves, a ſtatue of BAGHIRATHA; at which place the river may, he ſays, be leaped over: and he further notices, that thirty coſs to the ſouthward of Gungowtri there is a fountain, or ſpring, called the *Jumnowtri* or *Yumnowtri*, which he deſcribes as the ſource of the Jumna or Yamuna River.

XV. Our traveller, leaving this part of the country, came in a ſouth-eaſt direction into Oude, and went thence into Nepaul, the ſeveral towns in which he deſcribes, incluſive of its capital, Catmandee, where flow, he obſerves, the four rivers of Naugmutty, Biſhenmutty, Roodrmutty, and Munmutty; and at ſeven days journey beyond which, he notices a ſtation called *Goſſayn-thaun*, where MAHADEO took poiſon and ſlept, as related in the Hindu books; from which place (deſcribed by him as a ſnowy tract) he returned to Catmandee, and went thence in another direction into Thibet, croſſing in his way to it the Coſa river by a bridge compoſed of iron chains; and obſerving that at Leſtee, the third day's journey beyond the Coſa, is the boundary of Nepaul

and Thibet, where guards are ſtationed on both ſides; whence, in another day's travelling, PRAUN POORY arrived at Khaſſa, a town within *Bhote* or *Thibet*; (for by the former name the natives often underſtand what we mean by the latter;) hence he proceeded to *Chebang*, and from that to *Koortee*, where paſſes are given; and then croſſed over the hills (called in that country Lungoor) into the plain of Tingri, beyond which one day's journey is Gunguir; and at the end of the next *ſangee*, (from *ſangu*,) which means, he ſays, a *bridge* over a river there: after which our traveller proceeds to notice the other diſtances and ſtations of each *munzel*, or day's journey, (with other particulars, the inſertion of all which would render this addreſs too prolix,) till he reached Lahaſſa, and the mountain of *Patala*, the ſeat of the DELAI LAMA, whence he proceeded to Degurcha, which he mentions as that of the TAISHOO LAMA; and then, in a journey of upwards of eighty days, reached to the lake of Maun Surwur, (called in the Hindu books *Mánaſaróvara*;) and his deſcription of it I ſhall here inſert in a literal tranſlation of his own words.

XVI. " Its circumference (i. e. of the lake of Maun Surwur) is of " ſix days journey, and around it are twenty or five-and-twenty *Goumaris*, or " religious ſtations or temples, and the habitations of the people called " *Dowki*, whoſe dreſs is like that of the Thibetians. The Maun Surwur " is one lake; but in the middle of it there ariſes, as it were, a partition " wall; and the northern part is called *Maun Surwur*, and the ſouthern " *Lunkadh*, or *Lunkdeh*. From the Maun Surwur part iſſues one river, and " from the Lunkadh part two rivers: The firſt is called *Bráhma*, where " PURESRAM making *Tupiſya*, the *Bráhmaputra* iſſued out, and took its courſe " to the eaſtward; and of the two ſtreams that iſſue from the Lunkadh, one " is called the *Surju*, being the ſame which flows by Ayóddyà, or Oude; and " the

" the other is called *Sutroodra*, (or, in the *Puránas*, *Shutudru*, and vulgarly " the *Sutluje*,) which flows into the *Punjaub* country; and two days journey " weſt from the Maun Surwur is the large town of Teree Ládac, the for- " mer Rajahs of which were Hindus, but have now become Mahomme- " dans. The inhabitants there are like unto the Thibetians. Proceeding " from Ládac, ſeven days journey to the ſouthward, there is a mountain called " *Cailaſa Cungri*, (*Cungur* meaning a *peak*,) which is exceedingly lofty; " and on its ſummit there is a *Bhowjputr* or *Bhoorjputr* tree, from the root " of which ſprouts or guſhes a ſmall ſtream, which the people ſay is the " *ſource* of the *Ganges*, and that it comes from *Vaicont'ha*, or heaven, as is alſo " related in the *Puránas*; although this ſource appears to the ſight to flow " from the ſpot where grows this *Bhowjputr* tree, which is at an aſcent of " ſome miles; and yet above this there is a ſtill loftier ſummit, whither no " one goes: but I have heard that on that uppermoſt pinnacle there is a " fountain or cavity, to which a *Jagui* ſomehow penetrated; who, having " immerſed his little finger in it, it became petrified. At four days journey " from Cailaſa Cungri is a mountain called *Bráhmadandi*, or BRA'HMA'S " *ſtaff*, in which is the *ſource* of the *Aliknundra Ganga*; and five or ſix " days journey to the ſouth of that are ſituated on the mountains the tem- " ples dedicated to CEDARA, or KEDARNAUTH and BUDRANAUTH; and from " theſe hills flow the ſtreams called the *Kedar Ganga* and *Sheo Ganga*; the " confluxes of which, as well as of the *Aliknundra*, with the main ſtream of " the Ganges, take place near Kernpraug and Deopraug, in the vicinity of " Serinagur; whence they flow on in a united ſtream, which iſſues into the " plains of Hinduſtan at the Hurdewar."

XVII. PRAUN POORY went back from this part of the country into Nepaul and Thibet, from the capital of which he was charged by the adminiſtration

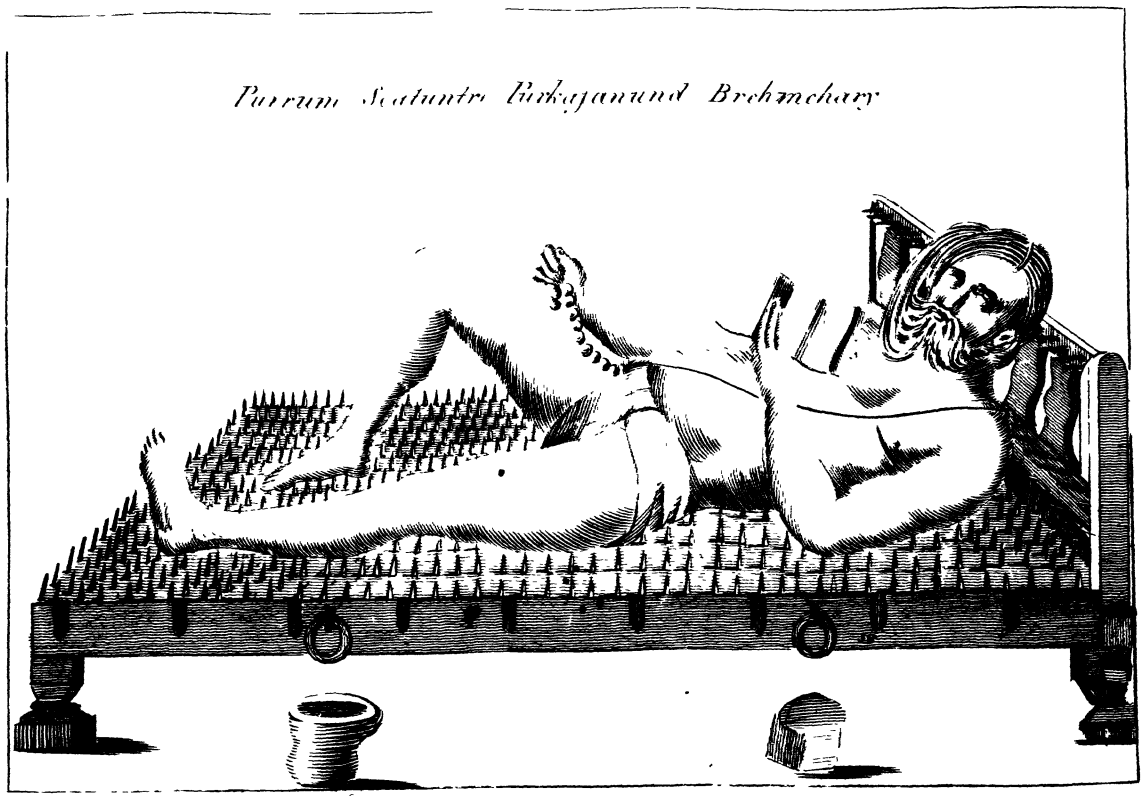
niſtration there with diſpatches to the Governor General, Mr. HASTINGS, which he mentions to have delivered in the preſence of Mr. BARWELL, and of the late Meſſrs. BOGLE and ELLIOTT; after which our traveller was ſent to Benares with introductory letters to Rajah CHEYT SING and to Mr. GRAHAM, who was at that time the reſident; and ſome years afterwards Mr. HASTINGS beſtowed on him in *jaghire*, the village of *Iſſapoor*, which he continues to hold as a free tenure; though he is ſtill ſo fond of travelling, that he annually makes ſhort excurſions into different parts of India, and occaſionally as far as Nepaul.

XVIII. The name of the other Hindu Fakeer, or *Brâhmechary*, (whoſe picture reclining, in his ordinary poſition, on his bed of iron ſpikes, accompanies this,) is PERKASANUND; and he aſſumes the title or epithet of PURRUM SOATUNTRE, which implies *ſelf-poſſeſſion* or *independence*; and as his own relation of his mode of life is not very long, I deliver an Engliſh tranſlation of it, as received from him in Auguſt, 1792; only obſerving that the *Jowalla Mookhi*, which he mentions to have viſited, is not the one on the *Caſpian*, but another; for there are at the leaſt three famous places known to the Hindus under this general denomination; one near to Naugercote, another (whither PRAUN POORY went) in the vicinity of Bakee, and the third (as I have been informed by Lieut. WILFORD) at Corcoor, to the eaſtward of the *Tigris*; but whether it be the firſt or laſt of theſe *Jowalla Mookhis* that PERKASANUND viſited, his narrative is not ſufficiently clear to enable me to diſtinguiſh; neither are his general knowledge and intelligence at all equal to PRAUN POORY's, which may account for his obſervation as to the difficulty of reaching the Maun Surwur lake, whither not only PRAUN POORY, but other Fakeers, that I have ſeen at Benares, profeſs to have nevertheleſs penetrated; ſo that my preſent

notice of PERKASANUND to the Society, is principally on account of the ſtrange penance he has thought fit to devote himſelf to, in fixing himſelf on his *ſer-ſeja*, or bed of ſpikes, where he conſtantly day and night remains; and, to add to what he conſiders as the merit of this ſtate of mortification, in the hot weather he has often burning around him logs of wood; and in the cold ſeaſon, water falling on his head from a perforated pot, placed in a frame at ſome height above him; and yet he ſeems contented, and to enjoy good health and ſpirits. Neither do the ſpikes appear to be in any material degree diſtreſſing to him, although he uſes not the defence of even ordinary cloathing to cover his body as a protection againſt them: but as the drawing exhibits an exact likeneſs as well of his perſon as of this bed of ſeeming torture, I ſhall not here trouble the Society with any further deſcription of either, and conclude by mentioning, that he is now living at Benares, on a ſmall proviſion that he enjoys from government.

P. S. Had my official occupations, whilſt at Benares, admitted of my paying due attention to PRAUN POORY's narrative of his travels, the geographical information they contain, or rather point to, as to the ſource of the Ganges, Jumna, and other principal rivers, might have probably admitted of a fuller illuſtration, and greater degree of accuracy, from a farther examination of that *Sunyaſſy*, aided by the important aſſiſtance which I might in that caſe have obtained on this part of the ſubject from Lieutenant WILFORD, who has, through his own unwearied exertions, and chiefly at his own expence, collected a variety of valuable materials relative to the geography of the north of India; at the ſame time that, by a zealous application to the ſtudy of Hindu literature, joined to an intimate acquintance with whatever

whatever the Greeks and Romans have left us, on their mythology, or concerning the general events of former ages, as far as their knowledge of the world extended, this gentleman is likely to throw much light on the earlier periods of the hiſtory of mankind.



Purrum Scatuntre Purkajanund Brehmchary

Tranſlation of the Relation delivered by PURRUM SOATUNTRE PURKASANUND BREHMCHARY *of his Travels and Life; delivered on the* 14*th of Auguſt,* 1792.

I AM a *Bráhmen* of the *Yujerveda* ſect, and of the line of *Práſher*. My anceſtors are from the Punjaub. They had a long time ago come to viſit at Jaggernauth, and had reached and were abiding at Gopegawn, where I was born. When I was only ten years of age, I uſed to give myſelf up to meditation and mortification, lying upon thorns and pebbles; a mode of life I had continued for ten years, when it was interrupted by my relations, who wanted me to think of marriage; whereupon, having attained to twenty years of age, I left my home, determined to devote myſelf to travelling. Firſt, after coming out of my houſe, I went towards Ootrakhund, by way of *Nepaul* and *Bhote*. I went into the country of the Great and Little *Lama*, where the TEESHOO LAMA lives. In this tract is the *Maun Talaee*, (i. e. tank or lake,) as far as which is inhabited, but not beyond it; and the lake called *Maun Surwur* is ſeventeen *munzels*, or days' journey, farther on, in a jungly country, which prevents acceſs to it. There are in this quarter the places known under the denominations of *Muni*, *Maheſho*, *Mahadeo*, and of *Teloke*, *Nautkjee*, and the *Debbees*, or cooking places, of *Nownauth*; and of the eighty-four *Sidhs*, or religious perſons, thus diſtinguiſhed; all ſituated on this ſide of the Maun Surwur. Into theſe Debbees, if one throw in either two loaves, or as many as are wanted; one in the name of the *Sidh*, and another in one's own name; that in the name of the *Sidh* remains at the bottom, and that in one's own name riſes up baked. Theſe places I viſited. At the Maun Talaee the boundaries of four countries meet, viz. that of China, of the *Lama*'s country, of the Beſeher country, and that of the Cooloo country.

Proceeding thus in religious progreſs from hill to hill, I paſſed through the Shaum country, and deſcending the hills, arrived in Caſhmir, where I halted for devotional purpoſes, as well as to proſecute my ſtudies. From Caſhmir I went through Thibet to the Great Jowallah, which is ſituated in a country where fire riſes out of the ground for the ſpace of twelve coſs. In this Jowallah whoever wants to dreſs victuals, or boil water, they have only to dig a little fiſſure into the ſurface of the ground, and place the article thereon, which will ſerve without wood. On this ſide of Peiſhore, where the *Sendhe* ſalt is produced, there is a village called *Dudun Khan's Pend*, adjoining to the ſalt pits. The Rajah of that country was called Rajah BHENDA SINGH. I had here ſhut myſelf up in a *Gowpha*, or cell, where I vowed to remain doing penance for a period of twelve years. Vermin or worms gnawed my fleſh, of which the marks ſtill remain; and when one year had elapſed, then the Rajah opened the door of the cell, whereupon I ſaid to him, "either take my "curſe, or make me a *ſer-ſeja*, or bed of ſpikes;" and then that Rajah made for me the *ſer-ſeja* I now occupy. During the four months of the winter I made *jel-ſeja* upon this ſeat. *Jel-ſeja* is, that night and day water is let fall upon my head. From thence, by the Sindh country I went to Hingoolauje, (a mountain dedicated to *Debee.*) All the country to the weſt and ſouth I travelled over upon this *ſer-ſeja*, coming at length to Preyago, or Allahabad; and paſſing by Caſhi, or Benares, I went to the temple of Jaggernauth; and viſiting Balajee, proceeded on to Ramiſher; and, after viſiting that place, I journied on to Surat. In Surat I embarked in a veſſel, and went by ſea to Muſcat in twelve days; and thence returning, came to Surat again. Mr. BODDAM was then at Surat; and he afterwards went to Bombay. I ſtayed two years at Surat. Mr. BODDAM granted me ſomething to ſubſiſt on with my followers, and built a houſe for me; and ſtill my *Cheilas*, or diſciples, are there. It is thirty-five years ſince I made *Tupiſya* upon this *ſer-ſeja*. I have been in ſeveral countries. How much ſhall I cauſe to be written? I have been at every

place of religious reſort, and have no longer any inclination to roam; but being deſirous of ſettling in Benares, I have come hither. Three *Yugs* have paſſed, and we are now in the fourth; and in all theſe four ages there have been religious devotees, and their diſciples; and they are firſt to make application to the Rajah, or to whoever is the ruler of the place; for even Rajahs maintain and ſerve us; and it is befitting that I obtain a ſmall place, where I may apply to my religious duties, and that ſomething may be allowed for my neceſſary expences, that I may bleſs you.

QUESTION.

In all the eighteen *Tupiſyas*, or modes of penetential devotion, that are made mention of in the *Shaſter*, the one you have choſen is not ſpecified; wherefore it is inferable, that you muſt have committed ſome great offence, in expiation of which you have betaken yourſelf to the preſent very rude mode of diſcipline. Declare, therefore, what crime you have perpetrated.

ANSWER.

In the *Suthya Yug*, or firſt age, there was a *Rikh*, or holy-man, called Agniburna, who performed this *ſer-ſeja* diſcipline; as in the *Treta*, or ſecond age, did Ravono, for ten thouſand years; and in the *Dwapar*, or third age, Bhikma Pitamaha, did the ſame; and in the *Calè Yug*, or preſent age, I have followed their example, during a period of thirty-five years; but not to expiate any crime or offence by me committed; in which reſpect if I be guilty, may Veshweishura ſtrike me a leper here in Benares.

QUESTION.

When you went to Ramiſher, at what diſtance was Lunka?

ANSWER.

We go to Ramiſher to worſhip; and at the *Setbund*, or bridge, there, there is a *ling* of ſand, which I paid my reſpects to: but beyond that nobody from Hinduſtan has gone to Lunka. In the ſea, your ſhips are always ſailing about; but the current is ſuch, that they cannot get thither; ſo, how can we go there? But from *Singuldeep*, or Ceylon, we can ſee the glitterings of Lunka. There I did not go; but my Cheilas have been there, who ſaid that in *Singuldeep* is the ſeat of RAWON; and HUNOOMAN's twelve *Chokies*, or watch ſtations.

QUESTION.

Have you ſeen RAM's Bridge? If you have ſeen it, deſcribe its length and breadth, and whether it be ſtill ſound or broken.

ANSWER.

Ram's Bridge, which is called *Setbund*, is aſcertained by the *Vêdas* to be ten *jojun* broad, and one hundred *jojun* long; but in three places it is broken. The people call it a bridge; or otherwiſe it appears to have wood growing on it, and to be inhabited.

ENUMERATION

III.

ENUMERATION OF INDIAN CLASSES.

By H. T. COLEBROOKE, *Esq.*

THE permanent ſeparation of Claſſes, with hereditary profeſſions aſſigned to each, is among the moſt remarkable inſtitutions of *India*; and, though now leſs rigidly maintained than heretofore, muſt ſtill engage attention. On the ſubject of the mixed Claſſes, *Sanſcrit* authorities, in ſome inſtances, diſagree: Claſſes mentioned by one, are omitted by another; and texts differ on the profeſſions aſſigned to ſome tribes. A compariſon of ſeveral authorities, with a few obſervations on the ſubdiviſions of Claſſes, may tend to elucidate this ſubject, in which there is ſome intricacy.

One of the authorities I ſhall uſe, is the *Játimálá*, or Garland of Claſſes; an extract from the *Rudrayámala Tantra*, which, in ſome inſtances, correſponds better with uſage and received opinions than the ordinances of MENU, and the great *D'herma-puráṇa*.* On more important points its authority could not be compared with the *D'herma-ſáſtra*; but, on the ſubject of Claſſes, it may be admitted; for the *Tantras* form a branch of literature

* The texts are cited in the *Vivádárnave ſétu*, from the *Vríhad D'herma-puráṇa*. This name I therefore retain; although I cannot learn that ſuch a *puráṇa* exiſts; or to what treatiſe the quotation refers under that name.

literature highly eſteemed, though at preſent much neglected. Their fabulous origin derives them from revelations of SIVA to PA'RVATI, confirmed by VISHNU, and therefore called *Agama*, from the initials of three words in a verſe of the *Tódala Tantra*.

" Coming from the mouth of SIVA, heard by the mountain-born goddeſs, " admitted by the ſon of VASUDE'VA, it is thence called *Agama*."

Thirty-ſix are mentioned for the number of mixed claſſes; but, according to ſome opinions, that number includes the fourth original tribe, or all the original tribes, according to other authorities: yet the text quoted from the great *D'herma-purána*, in the digeſt of which a verſion was tranſlated by Mr. HALHED, name thirty-nine mixed claſſes; and the *Játimálá* gives diſtinct names for a greater number.

On the four original tribes it may ſuffice, in this place, to quote the *Játimálá*, where the diſtinction of *Bráhmanas*, according to the ten countries to which their anceſtors belonged, is noticed: that diſtinction is ſtill maintained.

" In the firſt creation, by BRA'HMA, *Bráhmanas* proceeded, with the " *Véda*, from the mouth of BRA'HMA. From his arms *Cſhatriyas* ſprung; " ſo from his thigh, *Vaiſyas*; from his foot *Súdras* were produced: all with " their females.

" The Lord of creation viewing them, ſaid, " What ſhall be your occu- " pations?" They replied, " We are not our own maſters, Oh, God! Com- " mand us what to undertake.

" Viewing

" Viewing and comparing their labours, he made the firſt tribe ſuperior " over the reſt. As the firſt had great inclination for the divine ſciences, " (*Bráhmevéda,*) therefore he was *Bráhmana.* The protector from ill *(Cſhate)* " was *Cſhatriya*; him whoſe profeſſion (*Véſa*) conſiſts in commerce, which " promotes ſucceſs in war, for the protection of himſelf and of mankind; and " in huſbandry, and attendance on cattle, called *Vaiſya.* The other ſhould " voluntarily ſerve the three tribes, and therefore he became a *Súdra:* he " ſhould humble himſelf at their feet."

And in another place:

" A chief of the twice-born tribe was brought by VISHNU's eagle from " *Sáca dwipa:* thus have *Sáca dwipa Bráhmanas* become known in *Jambu* " *dwipa.*

" In *Jambu dwipa Bráhmanas* are reckoned tenfold; *Sáreſwata, Cány-* " *acubja, Gauda, Maithila, Utcala, Drávidà, Maraháſhtrà, Tailanga, Gujjava,* " and *Cáſmíra,* reſiding in the ſeveral countries *whence they are named.* (1.)

" Their ſons and grand-ſons are conſidered as *Cányacubja* prieſts, and " ſo forth. Their poſterity, deſcending from MENU, alſo inhabit the ſouthern " regions: others reſide in *Anga Banga* and *Calinga*; ſome in *Camrupa* and " *Odra.*

(1.) Theſe ſeveral countries are *Sáreſwata*, probably the region watered by the river *Serſutty*, as it is marked in maps; unleſs it be a part of *Bengal*, named from the branch of the *Bhágirathì*, which is diſtinguiſhed by this appellation, *Cányacubja*, or *Canoj*; *Gaura*, probably the weſtern *Gár*, and not the *Gaur* of *Bengal*; *Mit'hila*, or *Tirábhuctì*, corrupted into *Tirhut*; *Utcala*, ſaid to be ſituated near the celebrated temple of *Jagannát'ha*; *Drávidà*, pronounced *Dravira*; poſſibly the country deſcribed by that name, as a maritime region ſouth of *Carnata*, (*Aſi. Reſ.* vol. ii. p. 117.) *Maraháſhtrà*, or *Marhatta*; *Telinga*, or *Telingána*; *Gujjara*, or *Guzrat*; *Caſmíra*, or *Cáſhmir.*

" *Odra.* Others are inhabitants of *Sumbhadeſa:* and twice-born men, brought " by former Princes, have been eſtabliſhed in *Báda Mágadha, Varéndra, Chóla,* " *Swernagráma, China Cula, Saca,* and *Berbera.*" (1.)

I ſhall proceed, without further preface, to enumerate the principal mixed claſſes, which have ſprung from intermarriages of the original tribes.

1. *Murd'habhiſhicta,* from a *Bráhmana* by a girl of the *Cſhatriya* claſs: his duty is the teaching of military exerciſes. The ſame origin is aſcribed in the great *D'herma-purána* to the *Cumbhacára,* (2,) or potter, and *Tantraváya,* (3,) or weaver: but the *Tantraváya,* according to the *Játimálá,* ſprung from two mixed claſſes, begotten by a man of the *Manibandha* on a woman of the *Manicára* tribe.

2. *Ámbaſht'ha,* or *Vaidya,* (4,) whoſe profeſſion is the ſcience of medicine, was born of a *Vaiſya* woman, by a man of the ſacerdotal claſs. The ſame origin is given by the *D'herma-purána* to the *Canſacára,* (5,) or brazier, and to the *Sanc'hacára,* (6,) or worker in ſhells. Theſe again are ſtated, in the *Tantra,* as ſpringing from the intermarriages of mixed claſſes; the *Canſacára* from the *Támracúta* and the *Sanc'hacára;* alſo named *Sanchadáreca,* from the *Rájaputra* and *Gándhica:* for *Rájaputras* not only denote *Cſhatriyas* as ſons of

(1.) *Anga* includes *Bhágalpur. Benga,* or *Bengal* Proper, is a part only of the Suba. *Varéndra,* or tract of inundation north of the Ganges, is a part of the preſent Zila of *Rajeſhábi. Calinga* is watered by the *Godáveri,* (*Aſ. Reſ.* vol. iii. p. 48.) *Camrupal,* an ancient empire, is become a province of *Aſám. Odra* I underſtand to be *Oriſa* Proper. *Rada* (if that be the true reading) is well known as the country weſt of the *Bhágirat'ha. Mágadha,* or *Magadha,* is *Bahar* Proper; *Chóla* is part of Birbhum. Another region of this name is mentioned in the Aſiatick Reſearches, vol. iii. p. 48. *Swernagráma,* vulgarly *Sunargau,* is ſituated eaſt of *Dacca. China* is a portion of the preſent Chineſe empire. On the reſt I can offer no conjecture. *Saca* and *Berbera,* here mentioned, muſt differ from the *Dwipa,* and the region ſituated between the *Cuſha* and *Sancha Dwypas.* (2,) Vulgarly, *Cumár.* (3,) Vulgarly, *Tanti.* (4,) Vulgarly, *Baidya.* (5,) Vulgarly, *Cáſcrá.* (6,) Vulgarly, *Sac'hèra.*

of kings, but is alſo the name of a mixed claſs, and of a tribe of fabulous origin.

Rudra-Yámala Tantra: "The origin of *Rájaputras* is from the *Vaiſya* on "the daughter of an *Ambaſht'ha*. Again, thouſands of others ſprung from the "*foreheads of cows* kept to ſupply oblations."

3. *Niſháda*, or *Párajava*, whoſe profeſſion is catching fiſh, was born of a *Súdra* woman by a man of a ſacerdotal claſs. The name is given to the iſſue of a legal marriage between a *Bráhmana* and a woman of the *Súdra* claſs. It ſhould ſeem that the iſſue of other legal marriages in different claſſes were deſcribed by the names of mixed claſſes ſpringing from intercourſe between the ſeveral tribes. This, however, is liable to ſome queſtion; and ſince ſuch marriages are conſidered as illegal in the preſent age, it is not material to purſue the inquiry.

According to the *D'herma-purána*, from the ſame origin as the *Niſháda* ſprings the *Varajívi*, or aſtrologer. In the *Tantra*, that origin is given to the *Bráhme-júdra*, whoſe profeſſion is to make chairs or ſtools uſed on ſome religious occaſions. Under the name of *Varajívi* (1) is deſcribed a claſs ſpringing from the *Gópa* and *Tantravája*, and employed in cultivating beetle. The profeſſion of aſtrology, or, at leaſt, that of making almanacks, is aſſigned, in the *Tantra*, to degraded *Bráhmanas*.

"*Bráhmanas*, falling from their tribe, become kinſmen of the twice-born "claſs: to them is aſſigned the profeſſion of aſcertaining the lunar and ſolar "days."

(1) Vulgarly, *Barúya*.

4. *Máhiſhya* is the ſon of a *Cſhatriya* by a woman of the *Vaiſya* tribe. His profeſſion is muſic, aſtronomy, and attendance on cattle.

5. *Ugra* was born of a *Súdra* woman by a man of the military claſs. His profeſſion, according to MENU, is killing or confining ſuch animals as live in holes: but, according to the *Tantra*, he is an encomiaſt or bard. The ſame origin is attributed to the *Nápita* (1) or barber; and to the *Maudaca*, or confectioner. In the *Tantra*, the *Nápita* is ſaid to be born of a *Cuverina* woman by a man of the *Patticára* claſs.

6. *Carana* (2) from a *Vaiſya*, by a woman of the *Súdra* claſs, is an attendant on princes, or ſecretary. The appellation of *Cáyaſt'ha* (3) is in general conſidered as ſynonimous with *Carana*; and accordingly the *Carana* tribe commonly aſſumes the name of *Cáyaſt'ha*: but the *Cáyaſt'has* of Bengal have pretenſions to be conſidered as true *Súdras*, which the *Játimálá* ſeems to authorize; for the origin of the *Cáyaſt'ha* is there mentioned, before the ſubject of mixed tribes is introduced, immediately after deſcribing the *Gópa* as a true *Súdra*.

One, named *Bhútidatta*, was noticed for his domeſtic aſſiduity, (4;) therefore the rank of *Cáyaſt'ha* was by *Bráhmanas* aſſigned to him. From him ſprung three ſons, *Chitrángada*, *Chitraſéna*, and *Chitrágupta*: they were employed in attendance on princes.

The *D'herma-purána* aſſigns the ſame origin to the *Tambulí*, or beetle-ſeller, and to the *Tanlica*, or areca-ſeller, as to the *Carana*.

The

(1) Vulgarly, *Náya*, or *Nai*. (2) Vulgarly, *Caran*. (3) Vulgarly, *Cáit*. (4) Literally, *Staying at home*, (*Cáéy ſanſthitah*,) whence the etimology of *Cáyaſt'ha*.

The ſix above enumerated are begotten in the direct order of the claſſes. Six are begotten in the inverſe order.

7. *Suta*, begotten by a *Cſhatriya*, on a woman of the prieſtly claſs. His occupation is managing horſes, and driving cars. The ſame origin is given, in the *Purána*, to the *Málácára* (1) or floriſt; but he ſprung from the *Carmacára* and *Tailica* claſſes, if the authority of the *Tantra* prevails.

8. *Mágadha*, born of a *Cſhatriya* girl, by a man of the commercial claſs, has, according to the *Sáſtra*, the profeſſion of travelling with merchandize; but, according to the *Purána* and *Tantra*, is an encomiaſt. From parents of thoſe claſſes ſprung the *Gópa* (2) if the *Purána* may be believed; but the *Tantra* deſcribes the *Gópa* as a true *Súdra*, and names *Gópajivi* (3) a mixed claſs, uſing the ſame profeſſion, and ſpringing from *Tantraváya Manibandha* claſſes.

9 and 10. *Vaideha* and *Ayógava*. The occupation of the firſt, born of a *Bráhmení* by a man of the commercial claſs, is waiting on women: the ſecond, born of a *Vaiſya* woman by a man of the ſervile claſs, has the profeſſion of a carpenter.

11. *Cſhattri*, or *Cſhatta*, ſprung from a ſervile man by a woman of the military claſs, is employed in killing and confining ſuch animals as live in holes. The ſame origin is aſcribed by the *Purána* to the *Carmacára*, or ſmith, and *Dáſa*, or mariner. The one is mentioned in the *Tantra* without ſpecifying the claſſes from which he ſprung; and the other has a different origin, according to the *Sáſtra* and *Tantra*.

(1) *Málí*. (2) *Góp*. (3) *Góariá Góp*.

All authorities concur in deriving the *Chándala* from a *Súdra* father and *Bráhmení* mother. His profeſſion is carrying out corpſes, and executing criminals; and officiating in other abject employments for public ſervice.

A third ſet of Indian claſſes originate from the intermarriages of the firſt and ſecond ſet: a few only have been named by MENU; and, excepting the *Abhira*, or milkman, they are not noticed by the other authorities to which I refer. But the *Purána* names other claſſes of this ſet.

A fourth ſet is derived from intercourſe between the ſeveral claſſes of the ſecond ſet: of theſe alſo few have been named by MENU; and one only of the fifth ſet, ſpringing from intermarriages of the ſecond and third ſet; and another of the ſixth ſet, derived from intercourſe between claſſes of the ſecond and fourth ſet. MENU adds to theſe claſſes four ſons of outcaſts.

The *Tantra* enumerates many other claſſes, which muſt be placed in lower ſets*, and aſcribes a different origin to ſome of the claſſes in the third and fourth ſets.

Theſe differences may be readily apprehended from the comparative Table annexed. To purſue a verboſe compariſon would be tedious, and of little uſe; perhaps, of none; for I ſuſpect that their origin is fanciful; and, except the mixed claſſes named by MENU, that the reſt are terms for profeſſions rather than claſſes; and they ſhould be conſidered as denoting companies of artiſans, rather than diſtinct races. The mode in which AMERA SINHA mentions the mixed claſſes, and the profeſſions of artiſans, ſeems to ſupport this conjecture.

However,

* See the annexed rule, formed by our late venerable Preſident.

However, the *Játimálá* expreſsly ſtates the number of forty-two mixed claſſes, ſpringing from the intercourſe of a man of inferior claſs with a woman of ſuperior claſs. Though, like other mixed claſſes, they are included under the general denomination of *Súdra*, they are conſidered as moſt abject, and moſt of them now experience the ſame contemptuous treatment as the abject mixed claſſes mentioned by MENU. According to the *Rudrayámala*, the domeſtic prieſts of twenty of theſe claſſes are degraded. "Avoid," ſays the *Tantra*, "the touch of the *Chandála*, and other abject claſſes; and of thoſe who eat "the fleſh of kine, often utter forbidden words, and perform none of the "preſcribed ceremonies; they are called *Mléchcha*, and going to the region "of *Yavana*, have been named *Yavanas*.

"Theſe ſeven, the *Rajaca*, *Chermacára*, *Naía*, *Baruda*, *Caiverta*, and "*Médabhilla*, are the laſt tribes. Whoever aſſociates with them, undoubtedly "falls from his claſs; whoever bathes or drinks in wells or pools which they "have cauſed to be made, muſt be purified by the five productions of kine; "whoever approaches their women, is doubtleſs degraded from his claſs.

"For women of the *Naía* and *Capála* claſſes, for proſtitutes, and for "women of the *Rajaca* and *Nápita* tribes, a man ſhould willingly make "oblations, but by no means dally with them."

I may here remark, that, according to the *Rudrayámala*, the *Naía* and *Natáca* are diſtinct; but the profeſſions are not diſcriminated in that *Tantra*. If their diſtinct occupations, as dancers and actors, are accurately ſupplied, dramas are of very early date.

The *Pundraca* and *Pattaſutracára*, or feeder of ſilk-worms, and ſilk-twiſter, deſerve notice; for it has been ſaid, that ſilk was the produce of *China* ſolely until

until the reign of the Greek Emperor JUSTINIAN, and that the laws of *China* jealouſly guarded the excluſive production. The frequent mention of ſilk in the moſt ancient *Sanſcrit* books would not fully diſprove that opinion; but the mention of an Indian claſs, whoſe occupation it is to attend ſilk-worms, may be admitted as proof, if the antiquity of the *Tantra* be not queſtioned. I am informed, that the *Tantras* collectively are noticed in very ancient compoſitions; but, as they are very numerous, they muſt have been compoſed at different periods; and the *Tantra* which I quote, might be thought comparatively modern. However, it may be preſumed that the *Rudrayámala* is among the moſt authentic, and, by a natural inference, among the moſt ancient; ſince it is named in the *Durgamebáta*, where the principal *Tantras* are enumerated *.

In the comparative Tables to which I have referred, the claſſes are named, with their origin, and the particular profeſſions aſſigned to them. How far every perſon is bound, by original inſtitutions, to adhere rigidly to the profeſſion of his claſs, may merit ſome enquiry. Lawyers have largely diſcuſſed the texts of law concerning this ſubject, and ſome difference of opinion occurs in their writings. This, however, is not the place for entering into ſuch diſquiſitions. I ſhall therefore briefly ſtate what appears to be the beſt eſtabliſhed opinion, as deduced from the texts of MENU, and other legal authorities.

The

* Thus enumerated, *Cali-Tantri*, *Mundmalá*, *Tárá*, *Nirbána-Tantra*, *Servar ſárun*, *Bira-Tantra*, *Singár-chana*, *Bhuta-Tantra*, *Uddiſán* and *Cálicácalpa*, *Bhairaví-Tantra*, and *Bhairavicalpa*, *Tálala*, *Mátribhédancha*, *Máya-Tantra*, *Bireſwara*, *Biſeves-ára*, *Samayà-Tantra*, *Bráhma-Yámala-Tantra*, *Rudra-Yámala-Tantra*, *Sanklryámala-Tantra*, *Gàyatri-Tantra*, *Cálicácula Servaſwa*, *Culárnnava*, *Yógini-Tantra*, and the *Tantra Mehiſhamarddini*. Theſe are here univerſally known, Oh, BHAIRAVI, *greateſt of ſouls!* And many are the *Tantras* uttered by SAMBHU.

The regular means of ſubſiſtence for a *Bráhmana*, are aſſiſting to ſacrifice, teaching the *Védas*, and receiving gifts; for a *Cſhatriya*, bearing arms; for a *Vaiſya*, merchandize, attending on cattle, and agriculture; for a *Súdra*, ſervile attendance on the higher claſſes. The moſt commendable are, reſpectively for the four claſſes, teaching the *Véda*, defending the people, commerce, or keeping herds or flocks, and ſervile attendance on the learned and virtuous prieſts.

A *Bráhmana*, unable to ſubſiſt by his duties, may live by the duty of a ſoldier: if he cannot get a ſubſiſtence by either of theſe employments, he may apply to tillage, and attendance on cattle, or gain a competence by traffick, avoiding certain commodities. A *Cſhatriya*, in diſtreſs, may ſubſiſt by all theſe means; but he muſt not have recourſe to the higheſt functions. In ſeaſons of diſtreſs, a further latitude is given. The practice of medicine, and other learned profeſſions, painting and other arts, work for wages, menial ſervice, alms and uſury, are among the modes of ſubſiſtence allowed to the *Bráhmana* and *Cſhatriya*. A *Vaiſya*, unable to ſubſiſt by his own duties, may deſcend to the ſervile acts of a *Súdra*. And a *Súdra*, not finding employment by waiting on men of the higher claſſes, may ſubſiſt by handicrafts; principally following thoſe mechanical occupations, as joinery and maſonry; and practical arts, as painting and writing; by following of which he may ſerve men of ſuperior claſſes: and, although a man of a lower claſs is in general reſtricted from the acts of a higher claſs, the *Súdra* is expreſsly permitted to become a trader or a huſbandman.

Beſides the particular occupations aſſigned to each of the mixed claſſes, they have the alternative of following that profeſſion which regularly belongs to the claſs from which they derive their origin on the mother's ſide: thoſe, at leaſt, have ſuch an option, who are born in the direct order of the claſſes, as

the *Múrdhábhiſhicta*, *Ambaſht'ha*, and others. The mixed claſſes are alſo permitted to ſubſiſt by any of the duties of a *Súdra*; that is, by menial ſervice, by handicrafts, by commerce, or by agriculture.

Hence it appears that almoſt every occupation, though regularly it be the profeſſion of a particular claſs, is open to moſt other claſſes; and that the limitations, far from being rigorous, do, in fact, reſerve only one peculiar profeſſion, that of the *Bráhmana*, which conſiſts in teaching the *Véda*, and officiating at religious ceremonies.

The claſſes are ſufficiently numerous; but the ſubdiviſions of claſſes have further multiplied diſtinctions to an endleſs variety. The ſubordinate diſtinctions may be beſt exemplified from the *Bráhmana* and *Cáyaſt'ha*, becauſe ſome of the appellations, by which the different races are diſtinguiſhed, will be familiar to many readers.

The *Bráhmanas* of Bengal are deſcended from five prieſts, invited from *Cányacubja*, by A'DISURA, King of *Gaura*, who is ſaid to have reigned about three hundred years before Chriſt. Theſe were *Bhaṭṭa Neráyna*, of the family of *Sáṅdila*, a ſon of *Caśyapa*; *Dacſha*, alſo a deſcendant of *Caśyapa*; *Védagarva*, of the family of *Vatſa Chandra*, of the family of *Saverna*, a ſon of *Caśyapa*; and *Srí Herſhu*, a deſcendant of *Bhavadwája*.

From theſe anceſtors have branched no fewer than a hundred and fifty-ſix families, of which the precedence was fixed by BALLA'LA SE'NA, who reigned in the twelfth century of the Chriſtian æra. One hundred of theſe families ſettled in *Varéndra*, and fifty-ſix in *Rara*. They are now diſperſed throughout Bengal, but retain the family diſtinctions fixed by BALLA'LA SE'NA. They are denominated from the families to which their five progenitors belonged, and are ſtill conſidered as *Cányacubja Bráhmanas*. At

At the period when theſe prieſts were invited by the king of *Gaura*, ſome *Sâreſwata Bráhmanas*, and a few *Vaidicas*, reſided in Bengal. Of the *Bráhmanas* of *Sâreſwata* none are now found in Bengal; but five families of *Vaidicas* are extant, and are admitted to intermarry with the *Bráhmanas* of *Rára*.

Among the *Bráhmanas* of *Váréndra*, eight families have pre-eminence, and eight hold the ſecond rank.* Among thoſe of *Rára*, ſix hold the firſt rank.† The diſtinctive appellations of the ſeveral families are borne by thoſe of the firſt rank; but in moſt of the other families they are diſuſed; and *Serman*, or *Sermá*, the addition common to the whole tribe of *Bráhmanas*, is aſſumed. For this practice, the prieſts of Bengal are cenſured by the *Bráhmanas* of *Mit'hilá*, and other countries, where that title is only uſed on important occaſions, and in religious ceremonies.

* VA'RI'NDRA BRA'HMANAS.

CULI'NA 8.

Maitra.	*Bhíma*, or *Cali.*	*Rudra-Vagſi.*	*Sarvam* or *Sandyal.*
Láhari.	*Bhaduri.*	*Sadhu-Vagſi.*	*Bhadari.*

The laſt was admitted by the election of the other ſeven.

SUDHA SRO'TRI 8.

CASHTA SROTRI 84.

The names of theſe families ſeldom occur in common intercourſe.

† RA'RI'YA BRA'HMANAS.

CULI'NA 6.

Muchuti, Vulgarly, *Muc'kerja.*	*Ganguli.*	*Canjelál.*
Ghóſhála.	*Bandyagati*, Vulgarly, *Banerj'.*	*Chat'ati*, Vulgarly, *Chatorj.*

SRO'TRI 50.

The names of theſe families ſeldom occur in common intercourſe.

In *Mit'hilá*, the additions are fewer, though diſtinct families are more numerous: no more than three ſirnames are in uſe in that diſtrict, *T'hácurá*, *Miſra*, and *Ojhá*, each *appropriated* in any families.

The *Cáyaſt'has* of Bengal claim deſcent from five *Cáyaſt'has* who attended the prieſts invited from *Canyacubja*. Their deſcendants branched into eighty-three families, and their precedence was fixed by the ſame prince BALLA'LA SE'NA, who alſo adjuſted the family rank of other claſſes.

In *Benga* and *Decſhina Rára* three families of *Cáyaſt'has* have pre-eminence; eight hold the ſecond rank.* The *Cáyaſt'has* of inferior rank generally aſſume the addition of *Dáſa*, common to the tribe of *Súdras*, in the ſame manner as other claſſes have ſimilar titles common to the whole tribe. The regular addition to the name of *Cſhatríya* is *Verman*; to that of a *Vaiſya*, *Gupta*; but the general title of *Déva* is commonly aſſumed: with a feminine termination, is alſo borne by women of other tribes.

The

* CA'YAST'HAS of DECSHINA RA'RA and BENGA.

CULI'NA 3.

Ghóſha.	*Vaſu*, Vulg. *Bóſe.* *Sanmaulica.*	*Mitra.*	
Dé.	*Datta.*	*Cara.*	*Palita.*
Séna.	*Sinha.*	*Dáſa.*	*Guha.*

MAULICA' 72.

Guhan.	*Gana.*	*Heda.*	*Huhin.*	*Naga.*	*Bhadre.*
Sóma.	*Pui.*	*Rudra.*	*Pála.*	*Aditya.*	*Chandra.*
Sánya, or *Sain.*			*Suin*, &c.		
Syama, &c.					
Té Ja, &c.					
Chácé, &c.					

The others are omitted for the ſake of brevity; their names ſeldom occur in common intercourſe.

The diſtinctions of families are important in regulating intermarriages. Genealogy is made a particular ſtudy; and the greateſt attention is given to regulate the marriages according to eſtabliſhed rules; particularly in the firſt marriage of the eldeſt ſon. The principal points to be obſerved are, not to marry within the prohibited degrees; nor in a family known by its name to be of the ſame primitive ſtock; nor in a family of inferior rank; nor even in an inferior branch of an equal family; for within ſome families gradations are eſtabliſhed. Thus, among the *Culina* of the *Cáyaſt'has*, the rank has been counted from thirteen degrees; and in every generation, ſo long as the marriage has been properly aſſorted, one degree has been added to the rank. But ſhould a marriage be contracted in a family of a lower degree, an entire forfeiture of ſuch rank would be incurred.

The ſubject is intricate; but any perſon, deſirous of acquiring information upon it, may refer to the writings of *Gat'táas*, or genealogiſts, whoſe compoſitions are in the provincial dialect, and are known by the name of *Culajé*.

IV.

SOME ACCOUNT OF THE SCULPTURES AT MAHABALIPOORUM; *Uſually called the Seven Pagodas.*

By J. GOLDINGHAM, Eſq.

THESE curious remains of antiquity, ſituate near the ſea, are about thirty-eight Engliſh miles ſoutherly from *Madras*. A diſtant view preſents merely a rock, which, on a near approach, is found deſerving of particular examination. The attention paſſing over the ſmaller objects, is firſt arreſted by a *Hindu* pagoda, covered with ſculpture, and hewn from a ſingle maſs of rock; being about twenty-ſix feet in height, nearly as long, and about half as broad. Within is the *lingam*, and a long inſcription on the wall, in characters unknown.

Near this ſtructure, the ſurface of the rock, about ninety feet in extent, and thirty in height, is covered with figures in bas-relief. A gigantic figure of the god CRISHNA is the moſt conſpicuous, with ARJOON, his favourite, in the *Hindu* attitude of prayer; but ſo void of fleſh, as to preſent more the appearance of a ſkeleton than the repreſentation of a living perſon. Below is a venerable figure, ſaid to be the father of ARJOON; both figures proving the ſculptor poſſeſſed no inconſiderable ſkill. Here are the repreſentations of ſeveral animals, and of one which the *Bráhmens* name *ſingam*, or lion; but by no means a likeneſs of that animal, wanting the peculiar characteriſtick, the

the mane. Something intended to repreſent this is, indeed, viſible, which has more the effect of ſpots. It appears evident, the ſculptor was by no means ſo well acquainted with the figure of the lion as with that of the elephant and monkey, both being well repreſented in this group. This ſcene, I underſtand, is taken from the *Mahabarat*, and exhibits the principal perſons whoſe actions are celebrated in that work.

Oppoſite, and ſurrounded by, a wall of ſtone, are pagodas of brick, ſaid to be of great antiquity. Adjoining is an excavation in the rock, the maſſy roof ſeemingly ſupported by columns, not unlike thoſe in the celebrated cavern in the Iſland of Elephanta, but have been left unfiniſhed. This was probably intended as a place of worſhip. A few paces onward is another, and a more ſpacious, excavation, now uſed, and I ſuppoſe originally intended, as a ſhelter for travellers. A ſcene of ſculpture fronts the entrance, ſaid to repreſent CRISHNA attending the herds of ANANDA. One of the group repreſents a man diverting an infant, by playing on a flute, and holding the inſtrument as we do. A gigantic figure of the god, with the *gopis*, and ſeveral good repreſentations of nature, are obſerved. The columns ſupporting the roof are of different orders: the baſe of one is the figure of a *Sphynx*. On the pavement is an inſcription. (See Inſcript.) Near is the almoſt deſerted village, which ſtill retains the ancient name *Mahabalipoorum*. The few remaining *Brâhmens* viſit the traveller, and conduct him over the rock.

In the way up the rock a prodigious circular ſtone is paſſed under, ſo placed by nature, on a ſmooth and ſloping ſurface, that you are in dread of its cruſhing you before you clear it. The diameter of this ſtone is twenty-ſeven feet. The top of the rock is ſtrewed with fragments of bricks, the remains, as you are informed, of a palace ſtanding on this ſite. A rectangular poliſhed

poliſhed ſlab, about ten feet in length, the figure of a *ſingam* couchant, at the ſouth end, is ſhewn you as the couch of the DHERMA Rajah. A ſhort way further, the bath uſed by the females of the palace is pointed out. A tale I ſuſpect fabricated by the *Bráhmens* to amuſe the traveller. That ſome of their own caſt had choſen this ſpot, retired among rocks, and difficult of acceſs, to reſide in, and that the bath, as it is called, which is only a rough ſtone hollowed, was their reſervoir for water, would have an air of probability. The couch ſeems to have been cut from a ſtone accidentally placed in its preſent ſituation, and never to have made a part of the internal furniture of a building. The *ſingam*, if intended as a lion, is equally imperfect with the figures of the ſame animal before-mentioned.

Deſcending over immenſe beds of ſtone, you arrive at a ſpacious excavation; a temple dedicated to SI'VA, who is repreſented, in the middle compartment, of a large ſtature, and with four arms; the left foot reſts on a bull couchant; a ſmall figure of BRA'HMA on the right hand; another of VISHNU on the left; where alſo the figure of his goddeſs PARVATI' is obſerved. At one end of the temple is a gigantic figure of VISHNU, ſleeping on an enormous *Cobra de Capella*, with ſeveral heads, and ſo diſpoſed as to form a canopy over the head of the god. At the oppoſite end is the goddeſs SI'VA, with eight arms, mounted on a *ſingam*. Oppoſed to her is a gigantic figure, with a buffalo's head and human body. Between theſe is a human figure, ſuſpended with the head downwards. The goddeſs is repreſented with ſeveral warlike weapons, and ſome armed dwarf-attendants; while the monſter is armed with a club. In the character of DURGA, or protector of the virtuous, the goddeſs is reſcuing from the YEM Rajah (the figure with the buffalo's head) the ſuſpended figure fallen improperly into his hands. The figure and action of the goddeſs are executed in a maſterly and ſpirited ſtyle. Over this temple, at a conſiderable

ſiderable elevation, is a ſmaller, wrought from a ſingle maſs of ſtone. Here is ſeen a ſlab, ſimilar to the DHERMA Rajah's couch. Adjoining is a temple, in the rough, and a large maſs of rock, the upper part roughly faſhioned for a pagoda. If a concluſion may be drawn from theſe unfiniſhed works, an uncommon and aſtoniſhing perſeverance was exerted in finiſhing the ſtructures here; and the more ſo, from the ſtone's being a ſpecies of granite, and extremely hard.

The village contains but few houſes, moſtly inhabited by *Bráhmens*; the number of whom has, however, decreaſed of late, owing to a want of the means of ſubſiſting. The remains of ſeveral ſtone edifices are ſeen here; and a large tank, lined, with ſteps of ſtone. A canopy for the pagod attracts the attention, as by no means wanting in magnificence or elegance. It is ſupported by four columns, with baſe and capital, about twenty-ſeven feet in height, the ſhaft tapering regularly upwards; is compoſed of a ſingle ſtone, though not round, but ſixteen ſided; meaſuring at bottom about five and a half feet.

Eaſt of the village, and waſhed by the ſea, which, perhaps, would have entirely demoliſhed it before now, but for a defence of large ſtones in front, is a pagoda of ſtone, containing the *lingam*, and dedicated to SI'VA. Beſides the uſual figures within, one of a gigantic ſtature is obſerved ſtretched out on the ground, and repreſented as ſecured in that poſition. This the *Bráhmens* tell you was deſigned for a Rajah, who was thus ſecured by VISHNU; probably alluding to a prince of the VISHNU caſt having conquered the country, and taken its prince. The ſurf here breaks far out over, as the *Bráhmens* inform you, the ruins in the city, which was incredibly large and magnificent. Many of the maſſes of ſtone near the ſhore appear to have been wrought. A *Bráhmen*, about fifty years of age, a native of the place, whom I have had an opportunity

opportunity of converſing with ſince my arrival at *Madras*, informed me, his grandfather had frequently mentioned having ſeen the gilt tops of five pagodas in the ſurf, no longer viſible. In the account of this place by Mr. WILLIAM CHAMBERS, in the firſt volume of the *Aſiatick Reſearches*, we find mention of a brick pagoda, dedicated to SI'VA, and waſhed by the ſea; this is no longer viſible; but as the *Bráhmens* have no recollection of ſuch a ſtructure, and as Mr. CHAMBERS wrote from memory, I am inclined to think the pagoda of ſtone mentioned above to be the one he means. However, it appears from good authorities, that the ſea on this part of the coaſt is encroaching by very ſlow, but no leſs certain ſteps, and will perhaps in a lapſe of ages entirely hide theſe magnificent ruins.

About a mile to the ſouthward are other ſtructures of ſtone, of the ſame order as thoſe north, but having been left unfiniſhed, at firſt ſight appear different: the ſouthermoſt of theſe is about forty feet in height, twenty-nine in breadth, and nearly the ſame in length, hewn from a ſingle maſs: the outſide is covered with ſculpture, (for an account of which ſee Inſcriptions:) the next is alſo cut from one maſs of ſtone, being in length about forty-nine feet, in breadth and height twenty-five, and is rent through the middle from the top to the bottom; a large fragment from one corner is obſerved on the ground: No account is preſerved of the powerful cauſe which produced this deſtructive effect. Beſide theſe, are three ſmaller ſtructures of ſtone. Here is alſo the *ſingam*, or lion, very large, but, except in ſize, I can obſerve no difference from the figures of the ſame animal northerly. Near the *ſingam* is an elephant of ſtone about nine feet in height, and large in proportion: Here, indeed, we obſerve the true figure and character of the animal.

The *Bráhmen* before mentioned informed me, that their *Puránas* contained no account of any of the ſtructures here deſcribed, except the *ſtone pagodas near the ſea*, and the *pagodas of brick at the village*, built by the DHERMA Rajah, and his brothers: He, however, gave me the following traditional account: That a northern prince (perhaps one of the conquerors) about one thouſand years ago, was deſirous of having a great work executed, but the *Hindu* ſculptors and maſons refuſed to execute it on the terms he offered: Attempting force I ſuppoſe, they, in number about four thouſand, fled with their effects from his country hither, where they reſided four or five years, and in this interval executed theſe magnificent works. The prince at length diſcovering them, prevailed on them to return, which they did, leaving the works unfiniſhed as they appear at preſent.

To thoſe who know the nature of theſe people, this account will not appear improbable. At preſent we ſometimes hear of all the individuals of a particular branch of trade deſerting their houſes, becauſe the hand of power has treated them ſomewhat roughly; and we obſerve like circumſtances continually in miniature. Why the *Bráhmens* reſident on the ſpot keep this account ſecret I cannot determine; but am led to ſuppoſe they have an idea, the more they can envelope the place in myſtery, the more people will be tempted to viſit and inveſtigate, by which means they profit conſiderably.

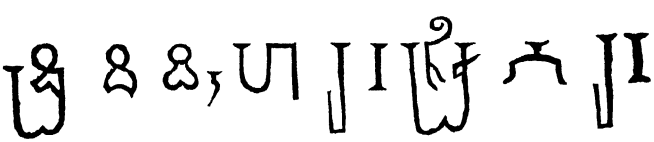
The difference of ſtyle in the architecture of theſe ſtructures, and thoſe on the coaſt hereabouts, (with exceptions to the pagodas of brick at the village, and that of ſtone near the ſea, both mentioned in the *Puránas*, and which are not different,) tends to prove that the artiſts were not of this country; and the reſemblance of ſome of the figures and pillars to thoſe in the *Elephanta* Cave, ſeems to indicate they were from the northward. The fragments of bricks,

at the top of the rock, may be the remains of habitations raiſed in this place of ſecurity by the fugitives in queſtion. Some of the Inſcriptions, however, (all of which were taken by myſelf with much care,) may throw further light on this ſubject.

INSCRIPTIONS *at* MAHABALIPOORUM.

On the lower Diviſion of the Southern Structure and the Eaſtern Face.

This Inſcription is above a Figure apparently Female, but with only *one* Breaſt, (as at the Cave in *Elephanta* Iſland.) Four Arms are obſerved; in one of the Hands a Battle-axe, a Snake coiled up on the Right Side.



Above a Male Figure with four Arms.

Northern Face.

Above a Male Figure with Four Arms; a Battle-axe in one of the Hands.

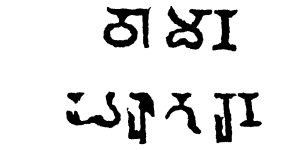
Southern

Southern Front.

Above a Male Figure, with four Arms.

Above a Male Figure.

On the middle Diviſion, Eaſtern Face.

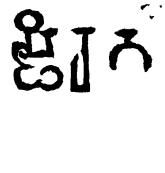


Above a Male.

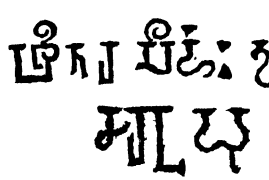
Above a Male, bearing a Weapon of War on the left Shoulder.

Northern

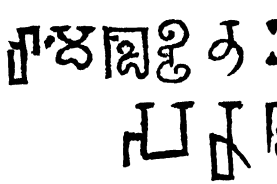
Northern Face.



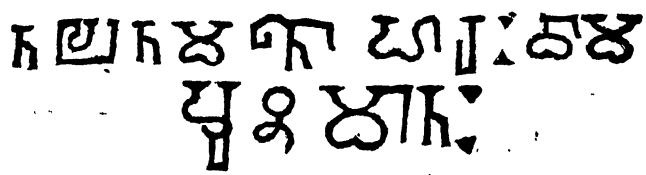
Above a Male with four Arms, leaning on a Bull; the Hair plaited, and rolled about the Head; a *String* acroſs the left Shoulder, *as the* Bráhmens' *String* of *the preſent Day.*



Above two Figures, Male and Female. The former has four Arms, and the String as above; is leaning on the latter, who ſeems to ſtoop from the Weight. The Head of the Male is covered with a high Cap, while the Hair of the Female is in the ſame Form as that of the Female Figures at *Elephanta*.

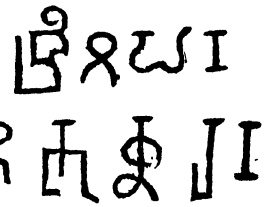


Above two Figures, Male and Female. The former has four Arms, and the String.

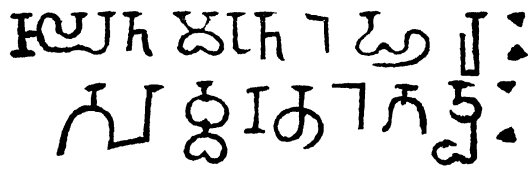


Above a Male Figure, with four Arms, and the *Brâhmenical* String.

Southern Face.



Above a Male Figure, with four Arms.

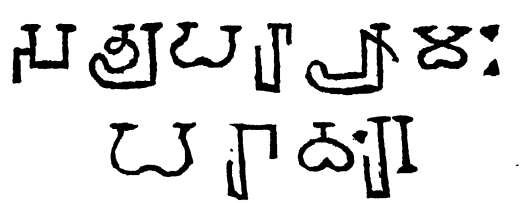


Above a Male Figure, with four Arms, leaning on a Female, ſeeming to ſtoop under the Weight.

Above a Male, with four Arms. A Scepter appears in one Hand. This Inſcription being very difficult to come at, is perhaps not quite correct.

Above a Male Figure, with four Arms.

Weſt Front.



Over a Male. The String over the left Shoulder, and a warlike Weapon on the Right.

Another Figure on this Face, but no Inſcription above it.

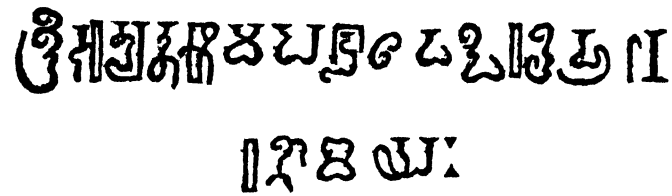
On the Upper Diviſion.

Each Front of this Diviſion is ornamented with Figures, different in ſome Reſpects from thoſe below: all, however, of the ſame Family.

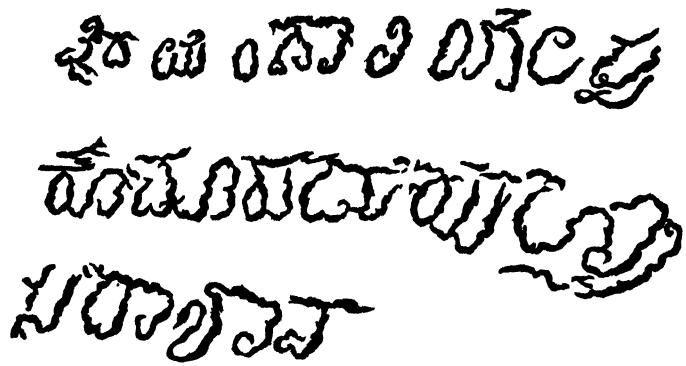
On the Eaſtern Front is a Male Figure, (two Arms only.) He has two Strings or Belts; one croſſing the other over the Shoulder.

Over

Over him is the following Inſcription, the only one on this Diviſion.



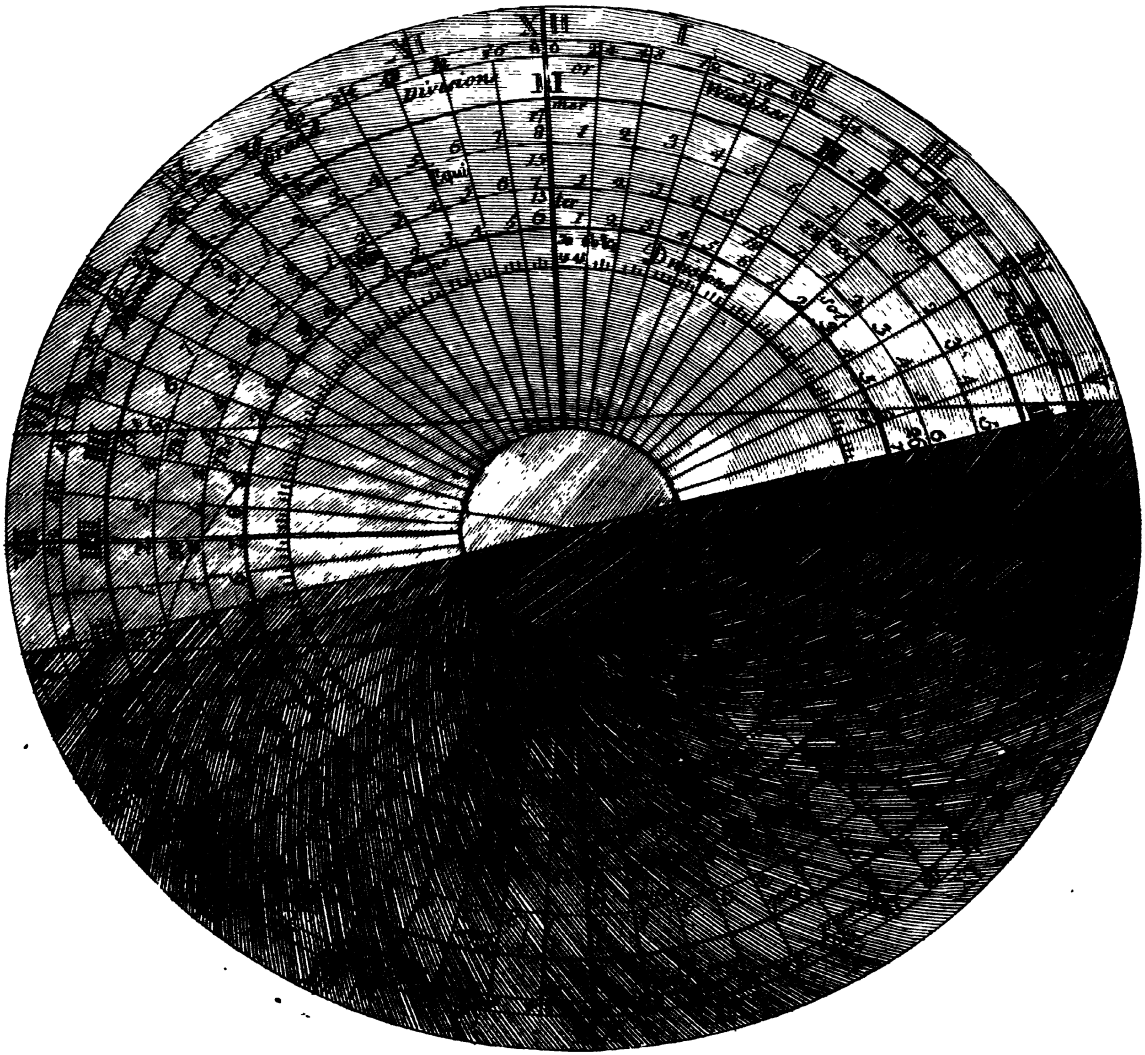
The Characters of this Inſcription bear a ſtrong Reſemblance to thoſe of the Inſcription in the Stone Pagoda, near the Village mentioned in the firſt Part of the Account of the Place.



This Inſcription is on the Pavement of the Choultry, near the Village, very roughly cut, and apparently by different Artiſts from thoſe who cut the former.

Account

The Hindoostanee Horal Diagram



V.

Account of the Hindustanee Horometry.

By John Gilchrist, Esq.

THE inhabitants of *Hinduſtan* commonly reckon and divide time in the following manner; which exhibits a horography ſo imperfect, however, that its inaccuracy can only be equalled by the peoples' general ignorance of ſuch a diviſion, that, with all its imperfections and abſurdities, muſt nevertheleſs anſwer the various purpoſes of many millions in this country. I ſhall therefore explain and illuſtrate ſo complex and difficult a ſubject, to the beſt of my ability and information from the natives, without preſuming, in the diſcuſſion here, to encroach on the province of the chronologiſt or aſtronomer, who may yet inveſtigate this matter with higher views, while my aim is, in the mean time, perhaps, not leſs uſefully confined to ordinary caſes and capacities entirely.

60 *Til* or *unoopul* (a ſub-diviſion of time, for which we have no relative term but *thirds*, as the ſeries next to * *ſeconds*) are one *bipul*.

60 *Bipul* (which correſponds progreſſively only with our *ſeconds* or moments) one *pul*.

* On this principle one minute of ours being equal to 24 *puls*, and one moment to 24 *bipuls*, it is neither eaſy nor neceſſary to trace and mark the coincidence of ſuch diminutives any farther. I may, however, add what the *Furhung Kardance* contains, relative to theſe horal diviſions, as follows.

4 *Renoo* conſtitute 1 *puluk*; 16 puluks, 1 *kaſt,ha*; 30 kaſt,has, 1 *kula*; 30 kulas, 1 *guhun*, 60 guhuns, 1 *dund*; 2 dunds, 1 *g,huree*, 30 dunds, 1 *din*; 60 dunds, 1 *din o rat*. From this work it is evident that there exiſt various modes of dividing time in *India*, becauſe a little farther on the author ſtates the following alſo, viz.

60 *Zurru*, 1 *dum*, 60 dums, 1 *lumhu*, &c. which, as well as the many local modes in uſe, it would be ſuperfluous to enumerate. I ſhall therefore attend only to the former, ſo far as they agree with our text. The *kaſt,ha* is equal to 4 *tils*, the *kula*, or two *bipuls*, the *guhan* and *pul* are the ſame; ſo are the *dund* and *(kuchee) g,huree*; but the learner muſt advert to the *g,huree* in this note, being *pukkee*, or two of the former; as this diſtinction is frequently uſed when they allot only four *g,hurees* to the *puhur*; and *pukkee*, or *dutta* is always underſtood.

60 *Pul* (correlative as above, in this ſexageſimal ſcale with our *minutes* or *primes*) one *g,huree*, and 60 *g,huree* (called alſo *d,und*, which we may here tranſlate *hour*) conſtitute our twenty-four hours,* or one whole day; divided into 4 *puhur din*, diurnal watches; 4 *puhur rat*, nocturnal watches.

During the equinoctial months, there are juſt 30 *g,hurees* in the day, and 30 alſo in the night; each *g,huree* properly occupying a ſpace, *at all times*, exactly equal to 24 of our minutes; becauſe 60 *g,hurees*, of 24 *Engliſh* minutes each, are of courſe 24 *Engliſh* hours of 60 *Engliſh* minutes each. For nations under or near the equator, this horological arrangement will prove convenient enough, and may yet be adduced as one argument for aſcertaining with more preciſion the country whence the *Hindus* originally came, provided they are, as is generally ſuppoſed, the inventors of the ſyſtem under conſideration here. The farther we recede from the line, the more difficult and troubleſome will the preſent plan appear. And as in this country the artificial day commences with the dawn, and cloſes juſt after ſun-ſet, it becomes neceſſary to make the *puhurs* or *watches* contract and expand occaſionally, in proportion to the length of the day, and the conſequent ſhortneſs of the night, by admitting a greater or ſmaller number of *g,hurees* into theſe grand diurnal and nocturnal diviſions alternately, and according to the ſun's progreſs to or from the tropicks. The ſummer ſolſtitial day will, therefore, conſiſt of 34 *g,hurees*, and the night

* *Lumhu* and *dum*, perhaps, anſwer to our *minutes* and *ſeconds*, as the conſtituent parts of the *ſa,ut*, or hour, 24 of which are ſaid to conſtitute a natural day, and are reckoned from 1 o'clock after mid-day, regularly on through the night; alſo up to 24 o'clock the next noon, as formerly was the caſe, and which is ſtill obſerved in ſome places on the continent; or, like ours, from 1 after noon to 12 at midnight; and again, from 1 after midnight to 12 o'clock the next noon. Whether thoſe few who can talk of the *ſa,ut* at all, have learnt this entirely from us or not, is a point rather dubious to me; but I ſuſpect they have it from the Arabians, who acquired this with other ſciences from the Greeks.

night of 26 only, or *vice verſa:* but, what is moſt ſingular in the *Indian* horometry, their *g,hurees* are unequally diſtributed among the day and night watches; the former varying from 6 to 9 in the *latter*, which are thus prevented from any definite coincidence with our time, except about the equinoctial periods only, when one *puhur* nearly correſponds to 3 *Engliſh* hours. I ſay *nearly*, becauſe even then the four middle watches have only 7 *g,hurees*, or 2 hours 48 minutes of ours; while the extremes have 8 *g,hurees* a-piece, or 24 *Engliſh* minutes more than the others, and conſequently agree with our 3 hours 12 minutes; while at other times the *puhur* is equal to no leſs than 3 hours 36 minutes; a fact which I believe has never yet been ſtated properly; though many writers have already given their ſentiments to the public on the ſubject before us; but they were probably miſled by ſaying 4-3s are 12 hours for the day, and the ſame for the night. Without conſidering the ſexageſimal diviſion, we muſt firſt make of the whole 24 hours, or 8 watches, 4 of which, during both equinoxes, having 7 *g,hurees* only, give 28: and the other 4 extreme watches, conſiſting at theſe periods alſo of 8 *g,hurees* each, form 32—60 in all; not 64 *g,hurees*,* as ſome calculators have made it, who were not aware that the *g,huree*, or *dund*, never

 can

* One of thoſe vulgar errors originating in the crude and ſuperficial notions which none take the trouble to examine or correct, and being thus implicitly adopted, are not ſoon nor eaſily eradicated; nay, this very idea of *ſixty-four* may be ſupported from an old diſtich.

At,h puhur *choun ſut g,huree*, k,huree pokaroon pee,
Jee nikſe, Jo pee mile; nikus ja, e yih jee.

But I anſwer, the bard ſeems a ſorry aſtronomer, or he would not have followed the erroneous opinion of there being 8 *g,hurees* in each of the eight *puhur*, and 64 in the natural day: though this prevails among the illiterate Indians uncontroverted to the preſent hour; and, were I not to expoſe it here, might continue a ſtumbling-block for ever; and in this random way have we alſo imbibed the doctrine that 4 *puhur*, of three hours each, are twelve of courſe; and eight of theſe muſt give our 24. A brief, but truly incorrect, mode of ſettling this account.

can be more nor leſs than 24 of our minutes, as I have proved above, by conſidering that 24 multiplied by 60, or 60 by 24, muſt be alike, which I ſhall make ſtill more evident hereafter. In judicial and military proceedings, the preſent enquiry may, ſometimes, aſſume conſiderable importance; and, as an acquaintance with it may alſo facilitate other matters, I have endeavoured to exhibit the Indian horometrical ſyſtem contraſted with our own, upon a dial or horal diagram, calculated for one natural day of 24 hours, and adjuſted to both the equinoctial and ſolſtitial ſeaſons, compriſing four months of the twelve, that theſe may ſerve as ſome baſis or data for a general coincidence of the whole, at any intermediate period, until men who are better qualified than the writer of this paper to execute ſuch a taſk with preciſion, condeſcend to undertake it for us. He is even ſanguine enough to hope that ſome able artiſt in Europe may yet be induced to conſtruct the dials of clocks, &c. for the Indian market on the principles delineated here, and in *Perſian* figures alſo. But we muſt now proceed to an explanation of the horal diagram adapted to the meridian of Patna, the central part of the Benares Zemindary, and the middle latitudes of *Hinduſtan*. The two exterior rings of this circle contain the complete 24 Engliſh hours, noted by the Roman letters, I, II, III, IV, &c. and the minutes are marked in figures, 24, 48, 12, 36, 60, agreeably to the ſexageſimal ſcale, whereon the equi-diſtant interſections of this dial are founded; the meridional ſemicircles of which repreſent our ſemidian watch-plates, and for obvious reaſons, with the modern horary repetition. See the note in page 82. I have diſtinguiſhed the eight (4 diurnal and 4 nocturnal) watches, or *puhurs*, from I. to IV. by Roman letters alſo, with the *chime* (gujur) or number of bells ſtruck at *each* in large figures, below the *puhur* letter, to which they belong, and in the ſame reiterated way; but theſe, inſtead of ranging from the meridian, like the Engliſh hours, commence with the equatorial and tropical lines alternately, as their ſituations and ſpaces muſt regularly accord with

with the riſing and ſetting of the ſun at the vernal and autumnal equinoxes, as alſo at the ſummer and winter ſolſtices. The days then differ in length alternately from 34 to 26 *g,hurees*, as noted by the chime figures of every watch; all of which will be more evident from the mode of inſerting them, and the manner that the plate has been ſhaded, to illuſtrate theſe circumſtances fully. II. *puhur*, however, never varies; and being upon the meridional line, it of courſe conſtantly falls in with our XII. day and night. The fourth ring from the circumference ſhews the *g,hurees*, when the day is longeſt, running with the ſun to the top, and from this to VI. P. M. for the ſubdiviſions of the day, and in the ſame manner by the bottom onwards for thoſe of the night, throughout theſe concatenated circular figures 1. 2. 3. 4. 5. 6. 7. 8. 9, 1. 2, &c. q. v. in the plate. Still more interior appear the equinoctial *g,hurees*, and on the ſame principles exactly. Within theſe come the winter ſolſtitial *g,hurees*, ſo clearly marked as to require no further elucidation here; except that in the three ſeries of convergent figures now enumerated, the reader will recollect, when he comes to the higheſt number of *g,hurees* in any *puhur*, to trace the *latter*, and its chime, or number of bells, out by the *g,huree* chord. For inſtance, when the days are ſhorteſt, begin 48 minutes after VI. A. M. and follow the coincident line inward to the centre, till you reach 9 and 34 for the cloſing *g,huree* and *gujur* of the night; thence go round in ſucceſſion upwards with the day *g,hurees* 1. 2. 3. 4. 5. 6. 7. the chord of which laſt terminates 36 minutes after IX. and has 7 upon it for 7 bells, and 1 for *ek puhur din*, the firſt watch of the day. In this way the whole may be compared with our time, allowing not only for the different meridians in this country, but for the ſeveral intermediate periods, and the difficulty of preciſely aſcertaining the real riſing of the ſun, &c. Neareſt the centre I have inſerted the prime diviſions or *puls* of every *g,huree*, viz. 60, ſo—15, 30, 45, 60, in two ſpaces only, becauſe

cauſe theſe are the invariable conſtituent minute parts of the *g,huree* at all ſeaſons of the year, and conſequently apply, (though omitted to prevent confuſion,) as in the plate, to every one of the horal ſections delineated there, into which the whole dial is equally divided. The intelligent reader may now conſult the diagram itſelf, and I truſt, with much ſatisfaction, as it, in fact, was the firſt thing that gave me any accurate knowledge of the *arrangement* and *coincidence* of the *Hinduſtanee* with the *Engliſh* hours, or of the rules on which their economy is founded. I certainly might have traced out and inſerted the whole for a complete year, had not the apprehenſion of making the figure too intricate and crouded for general utility, determined me to confine it to the elucidation of four months only; eſpecially as the real and artificial variations can be learned from an *Indian* aſtronomer, by thoſe who may wiſh to be minutely accurate on this ſubject; whence every one will have it in his own power to note the exact horal coincidences at any given period, by extending the preſent ſcheme only a little farther; becauſe the natives never add nor ſubtract a *g,huree* until the 60 *puls* of which it conſiſts are accumulated, but, with their uſual apathy, continue to diſtribute and reduce the conſtant increaſing and decreaſing temporal fractions among or from the ſeveral *puhurs* with little or no preciſion. Nay, they often have recourſe to the laſt of the diurnal or nocturnal ſubdiviſions for this purpoſe, when the grand horologiſt himſelf is about to inform them, that now is the time to wait for the whole of their loſt minutes, before they proceed on a new ſcore, at the riſk, perhaps, of making the cloſing *g,huree* of the day or night as long as any two of the reſt. On the other hand, when they have previouſly galloped too faſt with time, the ſame ill-fated hindmoſt *g,huree* may be reduced to a mere ſhadow, that the *G,huree,alee* may found the exact number, without regarding its diſproportion to the reſt in the ſame *puhur* at all. So much this and ſimilar freedoms have been and can be taken with time in Hinduſtan, that we may frequently hear

the following ſtory: While the faſt of *Rumuzan* laſts, it is not lawful for the *Muſſulmans* to eat or drink in the day; though at night they not only do both, but can uninterruptedly enjoy its other pleaſures alſo; and upon ſuch an occaſion, a certain *Omra* ſent to enquire of his *G,huree,alee*, if it was ſtill night; to which the complaiſant bellman replied in the true ſtyle of oriental adulation, *Rat to ho chookee mugut peer moorſhid ke waſte do g,huree, myn luga rukee.* "Night is paſt to be ſure; but I have yet two hours in reſerve for his "worſhip's conveniency." The apparatus with which the hours are meaſured and announced, conſiſts of a ſhallow bell-metal pan, named, from its office, *g,huree,al*, and ſuſpended ſo as to be eaſily ſtruck with a wooden mallet by the *G,huree,alee*, who thus ſtrikes the *g,hurees* as they paſs, and which he learns from an empty thin braſs cup (*kutoree*) perforated at bottom, and placed on the ſurface of water in a large veſſel, where nothing can diſturb it, while the water gradually fills the cup, and ſinks it in the ſpace of one *g,huree*, to which this hour-cup or *kutoree* has previouſly been adjuſted aſtronomically by an aſtrolabe, uſed for ſuch purpoſes in *India*. Theſe *kutorees* are now and then found with their requiſite diviſions and ſubdiviſions, very ſcientifically marked in *Sanſcrit* characters, and may have their uſes for the more difficult and abſtruſe operations of the mathematician or aſtrologer: but for the ordinary occurrences of life, I believe the ſimple rude horology deſcribed above ſuffices (perhaps divided into fourths of a *g,huree*) the Aſiatics in general, who, by the bye, are often wonderfully uninformed reſpecting every thing of this kind. The whole, indeed, appears, even to the better ſorts of people, ſo perplexing and inconvenient, that they are very ready to adopt our diviſions of time, when their reſidence among or near us puts this in their power: whence we may, in a great meaſure, account for the obſcurity and confuſion in which this ſubject has hitherto remained among the *Indians* themſelves; and the conſequent glimmering light that preceding writers have

have yet afforded in this branch of oriental knowledge, which really ſeems to have been ſlurred over as a drudgery entirely beneath their notice and enquiry. The *firſt g,huree* of the *firſt puhur* is ſo far ſacred to the Emperor of Hinduſtan, that his *G,huree,alee* alone ſtrikes *one* for it. The ſecond *g,huree* is known by two blows on the *G,huree,al*, and ſo on: one ſtroke is added for every *g,huree* to the higheſt, which (aſſuming the equinoctial periods for this ſtatement) is eight, announced by eight diſtinct blows for the paſt *g,hurees*; after which, with a ſlight intermiſſion, the *gujur* of eight bells is ſtruck or rung, as noted in the diagram by the chime figure 8, and then one hollow ſound publiſhes the firſt, or *ek puhur din* or *rat*, as this may happen, and for which conſult the plate. In one *g,huree*, or 24 of our minutes, after this, the ſame reiteration takes place; but here ſtops, at the ſeventh or meridional *g,huree*, and is then followed with its *gujur*, or chime of 15; of which 8 are for the firſt watch, and 7 for the ſecond, or *do puhur*, now proclaimed by two full diſtinct ſounds. We next proceed with 7 more *g,hureees*, exactly noting them as before, and ringing the *gujur* of 22 ſtrokes, after the ſeventh *g,huree*, or *teen puhur*, alſo known by three loud ſounds. The fourth *puhur* has, like the firſt, 8 *g,hurees*, and differs in no other reſpect than having a *gujur* of 30 after the equatorial *g,huree* has been ſtruck, the whole being cloſed by four loud blows on the *g,huree,al* for *char puhur din* or *rat*; the repetition being the ſame day and night during the equinoctial periods, which I have here given merely as an example more eaſy for the ſcholar's comprehenſion at firſt than the reſt. The extreme *gujurs* may be properly termed the evening and morning *bell*; and, in fact, the word ſeems much reſtricted to theſe, as *puhur* alone is more commonly uſed for the middle *chimes* than *gujur* appears to be. Six or eight people are required to attend the eſtabliſhment of a *g,huree*; four through the day, and as many at night; ſo that none but wealthy men, or grandees, can afford

afford to ſupport one as a neceſſary appendage of their conſequence and rank, which is convenient enough for the other inhabitants, who would have nothing of this ſort to conſult, as (thoſe being excepted which are attached to their armies) I imagine there are no other public (*ghurees*) clocks in all *India*.

VI.

ON INDIAN WEIGHTS AND MEASURES.

BY

H. T. COLEBROOKE, Eſq.

COMMENTATORS reconcile the contradictions of ancient authors, on the ſubject of weights and meaſures, by a reference to different ſtandards. To underſtand their explanations, I have been led to ſome enquiries, the reſult of which I ſhall ſtate conciſely, to alleviate the labour of others who may ſeek information on the ſame ſubject; omitting, however, ſuch *meaſures* as are of very limited uſe.

Moſt of the authorities which I ſhall quote have not been conſulted by myſelf, but are aſſumed from the citations in a work of GO'PA'LA BHATTA', on *Numbers* and *Quantities*, which is intitled *Sanc'hyaparimína*.

MENU, YA'JNYAWALEYA, and NA'REDA, trace all weights from the leaſt viſible quantity, which they concur in naming *traſarénu*, and deſcribing as the very ſmall mote which may be diſcerned in a ſun-beam paſſing through "a lattice." Writers on medicine proceed a ſtep further, and affirm, that a *traſarénu* contains thirty *paramánu*, or atoms: they deſcribe the *traſarénu* in words of the ſame import with the definitions given by MENU, and they furniſh another name for it, *vanſì*. According to them, eighty-ſix *vanſìs* make one *marîchi*, or ſenſible portion of light.

The legiſlators above named proceed from the *traſarénu* as follows:

8 *traſarénus*	= 1 *licſha*,	or minute poppy ſeed.
3 *licſhas*	= 1 *rája ſherſhapa*,	or black muſtard ſeed.
3 *rája ſherſhapas*	= 1 *gaura ſherſhapa*,	or white muſtard ſeed.
6 *gaura ſherſhapas*	= 1 *yava*,	or middle ſized barley-corn.
3 *yavas*	= 1 *crĭſhnala*,	or ſeed of the *gunjà*.

This weight is the loweſt denomination in general uſe, and commonly known by the name of *retti*, corrupted from *rettìcà*,* which, as well as *raktìcà*, denotes the red ſeed, as *crĭſhnala* indicates the black ſeed of the *gunjà* creeper. Each *retti* uſed by jewellers is equal to $\frac{7}{8}$ths of a carat. The ſeeds themſelves have been aſcertained by Sir WILLIAM JONES, from the average of numerous trials, at $1\frac{3}{16}$ grain. But fictitious *rettis*, in common uſe, ſhould be double of the *gunjà* ſeed; however, they weigh leſs than two grains and a quarter. For the ſicca weight contains $179\frac{2}{3}$ grains nearly; the *máſha*, $17\frac{3}{8}$ nearly; the *retti*, $2\frac{3}{16}$ nearly. Writers on medicine trace this weight from the ſmalleſt ſenſible quantity in another order.

30 *paramánus*, or atoms	= 1 *traſarénu*,	or *vanśi*.
86 *vanśis*	= 1 *marîchi*,	or ſenſible quantity of light.
6 *marîchis*	= 1 *rágicà*,	or black muſtard ſeed.
3 *rágicàs*	= 1 *ſherſhapa*,	or white muſtard ſeed.
8 *ſherſhapas*	= 1 *yava*,	or barley-corn.
4 *yavas*	= 1 *gunjà*,	or *rattìcà*.

A *rettìcà*

* Aſiatick Reſearches, vol. ii, page 154.

A *rettică* is alſo ſaid to be equal in weight to four grains of rice in the huſk: and GO'PA'LA BHATTA' affirms that one ſeed of the *gunjà*, according to writers on aſtronomy, is equal to two large barley-corns. Notwithſtanding this apparent uncertainty in the compariſon of a ſeed of the *gunjà* to other productions of nature, the weight of a *ractică* is well determined by practice, and is the common medium of compariſon for other weights. Theſe I ſhall now ſtate on the authority of MENU, YA'JNYAWALEYA, and NA'REDA.

WEIGHTS OF GOLD.

5 *chr̆ſhnalas*, or *ractićàs*	= 1 *máſha*, *máſhaca*, or *máſhica*.
16 *máſhas*	= 1 *carſha*, *acſha*, *tólaca*, or *ſuverna*.
4 *carſhas*, or *ſuvernas*	= 1 *pala*, (the ſame weight which is alſo denominated *niſhca*.)
10 *palas*	= 1 *dharana* of gold.

YA'JNYAWALEYA adds, that five *ſuvernas* make one *pala* (of gold) according to ſome authorities.

WEIGHTS OF SILVER.

2 *ractićàs*, or ſeeds of the *gunjà*	= 1 *máſhaca* of ſilver.
16 *máſhacas*	= 1 *dharana* of ſilver, or *purána*.
10 *dharanas* of ſilver	= 1 *ſatamána* or *pala* of ſilver.

But a *carſha*, or eighty *ractićàs* of copper, is called a *pana*, or *cárſhápana*.

Commentators differ on the application of the ſeveral terms. Some conſider *cr̆ſhnala* as a term appropriated to the quantity of one *ractică* of gold; but CULLU'CA BHATTA' thinks the *ſuverna* only peculiar to gold, for which metal it has alſo a name. A *pana*, or *cárſhápana*, is a meaſure of ſilver as well as of copper.

copper. There is a further diverſity in the application of the terms; for they are uſed to deſcribe other weights. NA'REDA ſays a *máſha* may alſo be conſidered as the twentieth of a *cárobápana*; and VRIHASPATI deſcribes it as the twentieth part of the *pala*. Hence we have no leſs than four *máſhas*: one *máſha* of five *raktics*; another of four *raktics*, (according to NA'REDA;) a third of ſixteen *raktics*, (according to VRIHASPATI;) and a fourth (the *máſhaca* of ſilver) conſiſting of two *raktics*; not to notice the *ma'ſhaca* uſed by the medical tribe, and conſiſting of ten, or, according to ſome authorities, of twelve, *raktics*, which may be the ſame as the jeweller's *ma'ſha* of ſix double *rettis*. To theſe I do not add the *ma'ſha* of eight *raktics*, becauſe it has been explained, as meaſured by eight ſilver *retti* weights, each twice as heavy as the ſeed; yet, as a practical denomination, it muſt be noticed. Eight ſuch *rettis* make one *ma'ſha*; but twelve *ma'ſhas* compoſe one *tóla*. This *tóla* is no where ſuggeſted by the Hindu legiſlators. Allowing for a difference in the *retti*, it is double the weight of the legal *tóla*, or 210 grains inſtead of 105 grains.

A *niſhca*, as ſynonimous with *pala*, conſiſts of five *ſuvernas*, according to ſome authors. It is alſo a denomination for the quantity of one hundred and fifty *ſuvernas*. Other large denominations are noticed in dictionaries.

108 *ſuvernas*, or *tólacas*, of gold, conſtitute an *urubhúſhana*, *pala*, or *dínára*.
100 *palas*, or *niſhcas*, make one *tulá*; 20 *tulás*, or 2000 *palas*, one *bhára*; and 10 *bhára*, one *àchita*.
200 *palas*, or *niſhcas*, conſtitute one *hára*.

According to DA'NAYO'GI'SWARA, the tenth of a *bhára* is called *ad'hára*, which is conſequently ſynonimous with *hára*, as a term for a ſpecific quantity of gold.

GO'PA'LA

Go'pa'la Bhatta' alſo ſtates other weights, without mentioning by what claſſes they are uſed. I ſuſpect an error in the ſtatement, becauſe it reduces the *máſha* to a very low denomination, and I ſuppoſe it to be the jeweller's weight.

6 *rájicás (rattícàs)*	=	1 *máſhaca, héma,* or *vánaca.*
4 *vánacas*	=	1 *ſala, dharana,* or *tanca.*
2 *tancas*	=	1 *cóna.*
2 *cónas*	=	1 *carſha.*

Probably it ſhould be *rattícàs* inſtead of *rájicás,* which would nearly correſpond with the weights ſubjoined, giving twenty-four *retticás* for one *dharana* in both ſtatements. It alſo correſponds with the tables in the *Áyén Acberì,* (vol. iii. p. 94.) where a *tánc* of twenty-four *rettis,* fixed at ten barley-corns to the *retti,* contains two hundred and forty barley-corns; and a *máſha* of eight *rettis,* at ſeven and a half barley-corns each, contains ſixty *rettis;* conſequently four *máſhas* are equal to one *tanca,* as in the preceding table; and ſix jeweller's *rettis* are equal to eight double *rettis,* as uſed by goldſmiths.

The ſame author (Go'pa'la Bhatta') obſerves, that weights are thus ſtated in aſtronomical books:

2 large barley-corns	=	1 ſeed of the *gunjà.*
3 *gunjàs*	=	1 *balla.*
8 *ballas*	=	1 *dharana.*
2 *dharanas*	=	1 *alaca.*
1000 *alacas*	=	1 *dhatáca.*

The tale of ſhells, compared to weight of ſilver, may be taken on the authority of the *Lílavatàì.*

80 *cavardacas.*

20 *capardacas*, ſhells, or cowries	=	1 *cácíní.*
4 *cácíní*	=	1 *pana*, *cárſhápana*, or *carſhica.*
16 *para* (= 1 *purána* of ſhells)	=	1 *bherma* of ſilver.
16 *bhermas*	=	1 *niſhca* of ſilver.

It may be inferred that one ſhell is valued at one *racticà* of copper; one *pana* of ſhells at one *pana* of copper; and ſixty-four *panas*, at one *tólaca* of ſilver, which is equal in weight to one *pana* of copper. And it ſeems remarkable that the comparative value of ſilver, copper, and ſhells, is nearly the ſame at this time as it was in the days of BHA'SCARA*.

On the meaſures of grain GO'PA'LA BHATTA' quotes the authority of ſeveral *puránas.*

Varáha purána:	1 *muſhti*, or handful	= 1 *pala.*
	2 *palas*	= 1 *praſriti.*
	8 *muſtís*	= 1 *cunchi.*
	8 *cunchis*	= 1 *puſhcala.*
	4 *puſhcalas*	= 1 *àd'haca.*
	4 *àd'hacas*	= 1 *dróna.*
Bhawiſhya purána:	2 *palas*	= 1 *praſriti.*
	2 *praſritis*	= 1 *cudava.*
	4 *cudavas*	= 1 *praſtha.*
	4 *praſthas*	= 1 *àd'haca.*
	4 *àd'hacas*	= 1 *dróna.*
	2 *drónas*	= 1 *cumb'ha*, or *ſúrpa.*
	16 *drónas*	= 1 *c'hárì*, or *ſhárì.*

* The comparative value of ſilver and copper was the ſame in the reign of ACBER; for the *dám*, weighing five *tanc*, or twenty *máſhas*, of copper, was valued at the fortieth part of the *Jeláli rupiya*, weighing twelve *máſhas* and a half of pure ſilver; whence we have again the proportion of ſixty-four to one.

Padme purâna : 4 *palas* = 1 *cudava.*
4 *cudavas* = 1 *praſt'ha.*
4 *praſt'has* = 1 *àd'haca.*
4 *àd'hacas* = 1 *dróna.*
16 *drónas* = 1 *c'hárì.*
20 *drónas* = 1 *cumb'ha.*
10 *cumb'has* = 1 *bâha*, or load.

Scanda purâna : 2 *palas* = 1 *praſrĭti.*
2 *praſrĭtis* = 1 *cudava.*
4 *cudavas* = 1 *praſt'ha.*
4 *praſt'has* = 1 *àd'haca.*
4 *àd'hacas* = 1 *dróna.*
2 *drónas* = 1 *cumb'ha* according to ſome.
20 *drónas* = 1 *cumb'ha* according to others.

From theſe may be formed two Tables. The firſt coincides with texts of the *Varâha purâna*, and is preferred by RAGHUNANDANA. The ſecond, formed on the concurrent authority of the *Bhawiſhya*, *Padme* and *Scanda puránas*, is adopted in the *Calpateru*; rejecting, however, the *cumb'ha* of two *drónas*, and making the *pala* equal to the weight of three *tólacas* and a half.

TABLE I.

8 *muſhtis*, or handfuls, = 8 *palas* = 4 *praſrĭtis* = 1 *cunchi.*
8 *cunchis* = 1 *puſhcala.*
4 *puſhcalas* = 1 *àd'haca.*
4 *àd'hacas* = 1 *dróna.*
20 *drónas* = 1 *cumb'ha.*

TABLE II.

4 *palas* = 2 *praſṛ́tis*	= 1 *cudava* or *ſétticá*		14 *tólas.*
4 *cudavas*	= 1 *praſt'ha*		56 ——
4 *praſt'has*	= 1 *àd'haca*		224 ——
4 *ad'hacas*	= 1 *dróna*		896 ——
20 *drónas*	= 1¼ *c'hárìs* = 1 *cumb'ha*		17,920 ——
10 *cumb'has*	= 1 *báha*		179,200 ——

But ſome make two *drónas* equal to one *cumb'ha.*

Would it be unreaſonable to derive the Engliſh coomb of four buſhels from the *cumb'ha* of the *Hindus?* The *c'hárì*, ſubſequently deſcribed, contains 5832 cubick inches, if the cubit be taken at eighteen inches. It would conſequently be equal to two buſhels, two pecks, one gallon, and two thirds; and the *cumb'ha*, equal to one *c'hárì* and a quarter, will contain three buſhels and three gallons nearly. According to LACSHMI'DHERA's valuation of the *pala*, at three *tólacas* and a half, the *c'hárì* weighs 14,336 *tólacas*, or 215 lb. avoirdupois nearly; and the *cumb'ha* 17,920 *tólacas*, or 268lb. which correſponds nearly to the weight of a coomb of good wheat; and a *báha* will be nearly equal to a wey, or a ton in freight.

The name of *ſétticá* for the fourth of a *praſt'ha* is aſſumed from the *Varáha purána*; and HEMA'DRI accordingly declares it ſynonymous with *cudava.* The *Calpateru*, *Smṛ́tiſara*, *Retnácara*, and *Samayapradipa*, alſo make the *ſétticá* equal to the *cudava*, or a quarter of the *praſt'ha*; but it contains twelve *praſṛ́ti* according to theſe commentaries; and the *praſṛ́ti* is deſcribed in the *Dánacánda*, by LACSHMI'DHERA, author of the *Calpateru*, as the quantity held

in both hands by a man of the common ſize. Twelve ſuch handfuls fill a *cudava*, deſcribed as a veſſel four fingers wide, and as many deep, which is uſed in meaſuring *ſmall* wood, canes, iron, and other things. But VA'CHESPATIMISRA adopts this *cudava* of twelve *praſṛ̆tis*, whence we have a third Table of legal Meaſures in general uſe.

TABLE III.

12 double handfuls	= 1	*cudava.*
4 *cudavas*	= 1	*praſt'ha.*
4 *praſt'has*	= 1	*àd'haca.*
4 *àd'hacas*	= 1	*dróna.*
20 *drónas*	= 1	*cumb'ha.*

Beſides the difference already noticed on the ſubject of the *cumb'ha*, commentators have ſuggeſted wider differences. According to CULLU'CA BHATTA', it contains twenty *drónas*; but this *dróna* contains two hundred *palas*.

In the *Dána vivéca* the *cumb'ha* is ſtated at one thouſand *palas*; in the *Retnácara*, at twenty *praſt'has*. But, according to JA'TU'CARNA, five hundred and twelve *palas* only conſtitute a *cumb'ha*. This may be the ſame quantity with the *dróna*, as a meaſure or weight eſtimated by the hand. It ſhould conſiſt of four *àd'hacas*, each equal to four *praſt'has*; and each of theſe weighing, according to the *Átharva véda*, thirty-two *palas* of gold. This again ſeems to be the *praſt'ha* of MAGAD'HA, deſcribed by GO'PATHA BRA'HMANA.

4 *crĭſhnalas*	= 1	*máſha.*
64 *máſhas*	= 1	*pala.*
32 *palas*	= 1	*praſt'ha*, as uſed in MAGAD'HA.

Since the *pala* of gold weighs 420 troy grains, the *praſt'ha* contains one pound avoirdupois, fourteen ounces and three quarters nearly. The *drôna*, laſt mentioned, contains 30lb. 11 oz. and a fraction; and a *cumb'ha* of twenty ſuch *drônas*, 614 lb. 6 oz. and a half nearly.

The meaſures of grain in common uſe, are probably derived from the ancient *cumb'ha* and *drôna*; but their names are not ſuggeſted by any of the preceding Tables. Twenty *cát'hás* make one *bísi*; and ſixteen *bísís* one *pautí*. The ſize of the *cát'há* varies in different diſtricts; in ſome containing no more than two and a half *ſér* of rice; in others five *ſér*, (80 ſicca weight;) or *even more*. In the ſouthern diſtricts of Bengal, a meaſure of grain is uſed which contains one *ſér* and a quarter. It is called *réc*. Four *récs* make one *páli*; twenty *pális*, one *ſoli*; and ſixteen *ſolis*, one *cáhen*.

The *Vrĭhat Rájamartanda* ſpecifies meaſures which do not appear to have been noticed in other *Sanſcrit* writings.

24 *tólacas* = 1 *ſér*.
2 *ſér* = 1 *prabh*.

It is mentioned in the *Ayén Ackberí*, that the *ſér* formerly contained eighteen *dáms* in ſome parts of *Hinduſtan*, and twenty-two *dáms* in others; but that it conſiſted of twenty-eight *dáms* at the commencement of the reign of Acber, and was fixed by him at thirty *dáms*. The *dám* was fixed at five *táncs*, or twenty *máſhas*; or, as ſtated in one place, twenty *máſhas* and ſeven *rettis*. The ancient *ſér*, noticed in the *Ayén Ackberí*, therefore, coincided nearly with the *ſér* ſtated in the *Rájamartanda*. The double *ſér* is ſtill uſed in ſome places, but called by the ſame name (*panchaſéri*) as the weight of five *ſér* uſed in others.

For

For meaſures uſed in *Mit'hila*, and ſome other countries, we have the authority of CHANDE'SUARA, in the *Bála bhášhana*. They differ from the ſecond Table, interpoſing a *mánica* equal to a fourth of a *c'hárì*, and making the *báha* equal to twenty *c'hárìs*.

4 *palas*	=	1 *cudava*.
4 *cudavas*	=	1 *praſt'ha*.
4 *praſt'has*	=	1 *àd'haca*.
4 *àd'hacas*	=	1 *dróna*.
4 *drónas*	=	1 *mánica*.
4 *mánicas*	=	1 *c'hárì*.
20 *c'hárìs*	=	1 *báha*.

GOPA'LA BHATTA' ſtates another ſet of meaſures, without furniſhing a compariſon to any determinate quantity otherwiſe known.

4 *áyus*	=	1 *śácſha*.
4 *śácſhas*	=	1 *bilwa*.
4 *bilwas*	=	1 *cudava*.
4 *cudavas*	=	1 *praſt'ha*.
4 *praſt'has*	=	1 *c'hárì*.
4 *c'hárìs*	=	1 *góní*.
4 *górìs*	=	1 *dronicá*.

I have already quoted a compariſon of the *cudava* to a practical meaſure of length; and we learn from the *Lílávatì*, that the *c'hárì*, or *c'hárìca*, of MAGAD'HA, ſhould be a cube meaſured by one cubit. "A veſſel meaſured "by a cubit, in every dimenſion, is a *ghanahaſta*, which, in MAGAD'HA, "is called *c'hárìca:* it ſhould be made with twelve corners, *or angles* "*formed by ſurfaces*; *(that is, it ſhould be made in the form of a ſolid, with ſix* "*faces.)*

"The

" The *c'hârìca* of UTCALA is in general uſe on the ſouth of the river *Gódá-*
" *veri:* there the *drôna* is the ſixteenth part of a *c'hárì*; (as in the Second
" Table;) the *àd'haca* the fourth of a *drôna*; the *praſt'ha*, the fourth of an
" *àd'haca*; and the *cudava*, a quarter of a *praſt'ha*. But the *cudava*, formed
" like a *ghanabaſta*, ſhould be meaſured by three fingers and a half in
" every dimenſion. This veſſel muſt be made of earth, or ſimilar materials;
" for ſuch alone is a *cudava*."

Both by this ſtatement, and by the Second Table, a *c'hárì* conſiſts of 1026 *cudavas*; and ſince the cubit muſt be taken at twenty-four fingers, or *angulas*, a ſolid cubit will contain 13,824 cubick *angulas* or fingers; and one *cudava* thirteen and a half cubick *angulas*. Its ſolid contents, therefore, are the half of a cube whoſe ſide is three fingers. A ſlight change in the reading would make the deſcription quoted from the *Lílávatì* coincide with this computation; and the *c'hárìca* of UTCALA and MAGAD'HA would be the ſame.

However, LACSHMI'DHERA has deſcribed the *cudava* as a veſſel four fingers wide, and as many deep, which makes a *cudava* of ſixty-four cubick *angulas*, or twenty-ſeven cubick inches. This will exhibit an *àd'haca* of 432 inches, ſimilar to a dry meaſure uſed at Madras, which is ſaid to contain 423 cubick inches, and is the eighth part of a *marcal* of 3384 cubick inches, or nearly double the *drôna* of 1728 cubick inches. If the *cudava* of UTCALA be a cube whoſe ſide is three and a half fingers, containing forty-three cubick *angulas* nearly, or eighteen cubick inches and a fraction, the *c'hárìca* of UTCALA contains 44,118 cubick *angulas*, or 18,612 cubick inches, taking the cubit at eighteen inches.

On

On the meaſures of ſpace, GO'PA'LA BHATTA' quotes a text from *Vriddha* MENU, which traces theſe from the ſame minute quantity as weights.

8 *traſarénus*	=	1 *rénu.*
8 *rénus*	=	1 *bálágra*, or hair's point.
8 *bálágras*	=	1 *licſha*, or poppy ſeed.
8 *licſhas*	=	1 *yúca.*
8 *yúcas*	=	1 *yava*, or very ſmall barley-corn.
8 *yavas*	=	1 *angula*, or finger.

From this MENU proceeds to longer meaſures.

12 *angulas*, or fingers,	=	1 *viteſti*, or ſpan.
2 *viteſtis*, or ſpans,	=	1 *heſta*, or cubit.

In the MA'RCANDE'YA *purána* meaſures are traced from atoms.

8 *paramánus*, or atoms,	=	1 *para ſucſhma*, moſt minute ſubſtance.
8 *para ſucſhmas*	=	1 *traſarénu.*
8 *traſarénus*	=	1 *mehirajaés*, grain of ſand or duſt.
8 grains of ſand	=	1 *bálágra*, or hair's point.
8 *bálágras*	=	1 *licſha.*
8 *licſhas*	=	1 *yúca.*
8 *yúcas*	=	1 *yava.*
8 *yavas*	=	1 *angula*, or finger.
6 fingers	=	1 *pada*, or breadth of the foot.
2 *padas*	=	1 *viteſti*, or ſpan.
2 ſpans	=	1 cubit *(heſta)*
2 cubits	=	the circumference of the human body.
4 cubits	=	1 *dhanuſh*, *denda*, or ſtaff.
2 *dendas*	=	1 *naricá* (or *nádì*)

In

In another place the ſame *purána* notices two meaſures, one of which is often mentioned in rituals:

21 breadths of the middle of the thumb	=	1 *retni.*
10 ditto - - - - - - -	=	1 *pradeſya*, or ſpan, from the tip of the thumb to the tip of the fore-finger.

But, according to the *Calpateru*, it ſhould be ten breadths of the thumb and a half. And we learn from the ADITYA *purána*, that, according to VYA'SA, it ſhould be meaſured by the breadth of the thumb at the tip. The ſame *purána* makes two *retnis* (or 42 thumbs) equal to one *ciſhu:* but HA'RI'TA compares the *ciſhu* to the cubit, four of which it contains, according to his ſtatement: and four *ciſhus* make one *nalwa*. Here again the ADITYA *purána* differs, making the *nalwa* to contain thirty *dhanuſh*. It concurs with authorities above cited, in the meaſures of the cubits *denda* and *nádì*; the firſt containing twenty-four fingers; the ſecond ninety-ſix fingers; and the *nádì* two *dendas*.

The ſame *purána* notices the larger meaſures of diſtance.

2000 *dhanuſh*	=	1 *crôſa.*
2 *crôſas*	=	*gavyuti.*
8000 *dhanuſh* = *gavyutis*	=	1 *yójana.*

On one reading of the VISHNU *purána*, the *crôſa* contains only one thouſand *dhanuſh*. Accordingly GOPA'LA' BHATTA' quotes a text, which acquaints us that "Travellers to foreign countries compute the *yójana* at four thouſand *dhanuſh*:" but he adduces another text, which ſtates the meaſures of the *króſa*, *gavyuti*, and *yójana*, as they are given in the ADITYA *purána*. The *Lílávatì* confirms this computation.

8 barley

8 barley-corns	=	1 finger's breadth.
24 fingers	=	1 *heſta*, or cubit.
4 cubits	=	1 *denda* (= 1 *dhanuſh.*)
2000 *dendas*	=	1 *crósa* *
4 *crósas*	=	1 *yójana.*

The *Lílávatì* alſo informs us of the meaſures uſed for arable land, which are ſimilar to thoſe now in uſe.

10 hands	=	1 *vanſa*, or bamboo cane.
20 *vanſas* (in length and breadth)	=	1 *niranga* of arable land.

Diviſions of time are noticed in the firſt chapter of MENU, (v. 64.)

18 *nimíſhas*, or the twinklings of an eye,	=	1 *cáſht'hà.*
30 *càſht'hàs*	=	1 *calá.*
30 *calás*	=	1 *cſhana.*
12 *cſhanas*	=	1 *muhúrta.*
30 *muhúrtas*	=	1 day and night, (according to mean ſolar time.)

From this he proceeds to the diviſions of the civil year.

15 days and nights (*ahórátra*)	=	1 *pacſha*, or interval between the ſizygies.
firſt and laſt *pacſha*	=	1 month.

* If the cubit be taken at eighteen inches, then 4000 yards = 1 ſtandard *crósa* = 2 miles and a quarter nearly: and 2000 yards = 1 computed *crósa* = 1 mile and one eighth: and MAJOR RENNEL ſtates the *crós* as fixed by ACBER at 5000 *gez* = 4757 yards = 2 Britiſh miles and 5 furlongs; and the average common *crós* at one mile ſtatute and nine tenths.

2 months	=	1 ſeaſon (*rĭtu*)
3 ſeaſons	=	1 *ayana* (half year)
2 *ayanas*	=	1 year.

According to the *Súrya Siddha'nta* (ſee Aſ. Reſ. vol. ii. p. 230.)

6 reſpirations (*pra'na'*)	=	1 *vicalà.*
60 *vicalàs*	=	1 *danda.*
60 *dandas*	=	1 ſydereal day.

The VISHNU *pura'na* ſtates a mode of ſubdividing the day, on which GO'PALA' BHATTA' remarks, that "it is founded on aſtronomy," and ſubjoins another mode of ſubdiviſion.

Ten long ſyllables are uttered in one reſpiration (*pra'na'.*)

6 reſpirations	=	1 *vinàdicà.*
60 *vinàdicàs*	=	1 *dhatà.*
60 *dhatàs*	=	1 day and night, (or ſolar day.)

Proceeding to another Table, he ſays, the time in which ten long ſyllables may be uttered is equal to one reſpiration.

6 reſpirations	=	1 *pala.*
60 *palas*	=	1 *ghaticà.*
60 *ghaticàs*	=	1 day and night.
30 days and nights	=	1 month.
12 months	=	1 year.

The VARA'HA *pura'na* concurs with the *Súrya Siddha'nta* in another ſubdiviſion of time.

60 *cſhanas*

60 *cſhanas*	=	1 *lava*
60 *lavas*	=	1 *nimêſha.*
60 *nimêſhas*	=	1 *ca'ſt'hà.*
60 *ca'ſt'hàs*	=	1 *atipala.*
60 *atipalas*	=	1 *vipala.*
60 *vipalas*	=	1 *pala.*
60 *palas*	=	1 *danda.*
60 *dandas*	=	a night and day.
60 nights and days	=	1 *rĭtu* or ſeaſon.

But the BHAWISHYA *pura'na* ſubdivides the *nimêſha* otherwiſe.

1 twinkling of the eye while a man is eaſy and at reſt = 30 *tatpanas*, or moments.

1 *tatpana*	= 100 *trutis.*
1 *truti*	= 1000 *ſamcramas.*

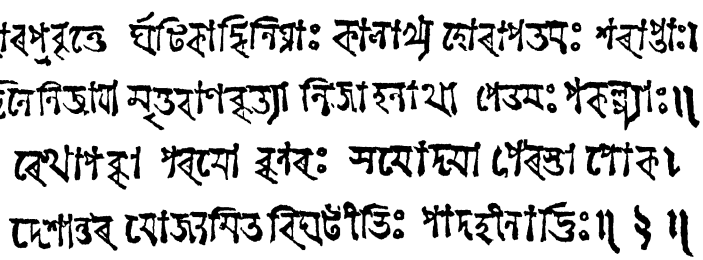
RAGHUNANDANA, in the *Jyótiſhatatwa*, gives a rule for finding the planets which preſide over hours of the day, called *hórá.* "Doubling the *ghatis* elaſped "from the beginning of the day (or ſun-riſe at the firſt meridian) and dividing "by five, the product ſhews the elapſed hours, or *hóra's.* The ſixth planet, "counted from that which gives name to the propoſed day, rules the ſecond "hour; the ſixth counted from this rules the third; and ſo on for the hours "of the day: but every fifth planet is taken for the hours of the night." The order of the planets is ☾ ☿ ♀ ☉ ♂ ♃ ♄; conſequently on a *Sunday* the regent of the ſeveral hours of the day and night are:

Day	1	2	3	4	5	6	7	8	9	10	11	12
	☉	♀	☿	☾	♄	♃	♂	☉	♀	☿	☾	♄

Night	1	2	3	4	5	6	7	8	9	10	11	12
	♂	♀	☾	♃	☉	☿	♄	♂	♀	☾	♄	☉

As the days of the week are found by taking every fourth in the ſame ſeries, we might proceed by this rule to the firſt *hórá* of the ſubſequent day, whoſe regent, the fourth from ☉, is ☾; and thence proceed by the above-mentioned rule to the regents of *hórás* for *Monday*.

I ſubjoin the original paſſage, which was communicated to me by Mr. DAVIS, and add a verbal tranſlation.



" THE *ghatìcas elapſed* from the beginning of the day being doubled, and " divided by (five) arrows, *ſhew* the cords of time called *hórá*. In the day " theſe cords are regulated by intervals of (ſix) ſeaſons, counted from the " particular regent of the day *propoſed*; in the night by intervals of (five) ar- " rows.

" The *commencement of the day*, at preceding or ſubſequent meridians, before " or after ſun-riſe, *at the firſt meridian, is known* from the interval of countries, " *or diſtance in longitude* meaſured by *yójanas*, and reduced into *ghatis*, after de- " ducting a fourth *from the number of yójanas*."

4

The

The coincidence of name for the hour, or twenty-fourth part of the day, is certainly remarkable. But until we find the ſame diviſion of time noticed by a more ancient author than RAGHUNANDANA, it muſt remain doubtful whether it may not have been borrowed from *Europe* in modern times.

VII.

OF THE

CITY OF PEGUE,

AND THE

TEMPLE OF SHOEMADOO PRAW.

By Captain MICHAEL SYMES.

THE limits of the ancient city *Pegue* may ſtill be accurately traced by the ruins of the ditch and wall that ſurrounded it. From theſe it appears to have been a quadrangle, each ſide meaſuring about a mile and a half. In ſeveral places the ditch is nearly filled by rubbiſh that has been caſt into it, or the falling in of its own banks: ſufficient, however, ſtill remains to ſhew that it once was no contemptible defence. The breadth I judged to be about 60 yards, and the depth ten or twelve feet; except in thoſe places where it is choaked up from the cauſes I have mentioned. There is ſtill enough of water to impede a ſiege; and I was informed, that when in repair, it ſeldom, in the hotteſt ſeaſon, ſunk below the depth of four feet.

The fragments of the wall likewiſe prove that this was a work of conſiderable magnitude and labour. It is not eaſy to aſcertain preciſely what was its exact height; but we conjectured it to have been at leaſt twenty-five feet; and in breadth at the baſe, not leſs than forty. It is compoſed of brick, badly cemented with clay mortar. Small equidiſtant baſtions, about 300 yards aſunder, are ſtill diſcoverable: but the whole is in a ſtate ſo ruinous, and ſo covered with weeds and briars, that it requires cloſe inſpection to determine the extent and nature of the defences.

In

In the center of each ſide there is a gateway, about thirty feet wide. Theſe gateways were the principal entrances. The paſſage acroſs the ditch is on a mound of earth, which ſerves as a bridge; and was formerly defended by a retrenchment, of which there are now no traces.

Nothing can exhibit a more ſtriking picture of deſolation than the inſide of theſe walls. ALOMPRAW, when he carried the city by aſſault in the year 1757, razed every dwelling to the ground, and diſperſed or led into captivity all the inhabitants. The pagodas, or praws, which are very numerous, were the only buildings that eſcaped the fury of the conquerors; and of theſe the great pagoda of SHOEMADOO has alone been attended to, and repaired. After the demolition of the city, ALOMPRAW carried the captive monarch with his family to *Ava*, where he remained many years a ſtate priſoner. YANGOON, or RANGOON, founded about this time, was by a royal mandate conſtituted the ſeat of provincial government, and *Pegue* entirely abandoned.

The preſent king of the *Birmans*, whoſe government has been leſs diſturbed than that of any predeceſſor of his family, entirely altered the ſyſtem which had been adopted by his father, and obſerved during the ſucceſſive reigns of his two brothers, NAMDOGE PRAW and SEMBUAN PRAW, and of his nephew CHENGUZA. He has turned his attention to the population and improvement, rather than the extenſion, of his dominions; and ſeems more deſirous to conciliate his new ſubjects by mildneſs, than to rule them through terror. He has abrogated ſeveral ſevere penal laws, impoſed upon the *Taliens* or *Peguers*: juſtice is now diſtributed impartially; and the only diſtinction at preſent between a *Birman* and *Talien*, conſiſts in the excluſion of the latter from all public offices of truſt and power.

No

No act of the *Birman* government is more likely to reconcile the *Taliens* to the *Birman* yoke, than the reſtoration of their ancient place of abode, and the preſervation and embelliſhment of the Pagoda of SHOEMADOO. So ſenſible was the King of this, as well as of the advantages that muſt accrue to the ſtate from an increaſe of culture and population, that five years ago he iſſued orders to rebuild Pegue, encouraged new ſettlers by liberal grants, and invited the ſcattered families of former inhabitants to return and repeople their deſerted city.

The better to effect this purpoſe, his *Birman* Majeſty, on the death of TAOMANGEE, the late *Mayoon*, or Viceroy, which happened about five years ago, directed his ſucceſſor, MAIN LLA NO RETHEE, to quit Rangoon, and make Pegue his future reſidence, and the ſeat of provincial government of the thirty-two provinces of *Henzawuddy*.

Theſe judicious meaſures have ſo far ſucceeded, that a new town has been built within the ſite of the ancient city; but Rangoon poſſeſſes ſo many ſuperior advantages, and holds out ſuch inducements to thoſe who wiſh to dwell in a commercial town, that adventurers do not reſort in any conſiderable numbers to the new colony. The former inhabitants are now nearly extinct, and their families and deſcendants ſettled in the provinces of *Tangboo*, *Martaban*, and *Talowmeou*; and many live under the protection of the *Siameſe*. There is little doubt, however, that the reſtoration of their favourite temple of worſhip, and the ſecurity held out to them, will, in the end, accompliſh the wiſe and humane intentions of the *Birman* Monarch.

Pegue, in its renovated ſtate, ſeems to be built on the plan of the former city. It is a ſquare, each ſide meaſuring about half a mile. It is fenced round by

by a ſtockade, from ten to twelve feet high. There is one main ſtreet, running eaſt and weſt, which is interſected at right angles by two ſmaller ſtreets, not yet finiſhed. At each extremity of the principal ſtreet there is a gate in the ſtockade, which is ſhut early in the evening. After that hour, entrance during the night is confined to a wicket. Each of theſe gates is defended by a ſorry piece of ordnance, and a few muſqueteers, who never poſt centinels, and are uſually aſleep. There are alſo two other gates on the north and ſouth ſides of the ſtockade.

The ſtreets of Pegue are ſpacious, as are the ſtreets in all *Birman* towns that I have ſeen. The road is careſully made with brick, which the ruins of the old town plentifully ſupply. On each ſide of the way there is a drain, that ſerves to carry off the water. The houſes even of the meaneſt peaſants of Pegue, and throughout all the Birman empire, poſſeſs an advantage over Indian dwellings, by being raiſed from the ground either on wooden poſts, or bamboos, according to the ſize of the building. The dwellings of the *Rahaans*, or prieſts, and higher ranks of people, are uſually elevated eight or ten feet; thoſe of the lower claſſes from two to four.

The houſes of the inhabitants of Pegue are far from commodious, agreeably to European notions of accommodation; but I think they are at leaſt as much ſo as the houſes of Indian towns. There are no brick buildings either in Pegue or Rangoon, except ſuch as belong to the King, or are dedicated to GAUDMA. The King has prohibited the uſe of brick or ſtone in private buildings, from the apprehenſion, I was informed, that, if people got leave to build brick houſes, they might erect brick fortifications, dangerous to the ſecurity of the ſtate. The houſes, therefore, are all made of mats or ſheathing-boards, ſupported on bamboos or poſts. Being compoſed of ſuch combuſtible materials,

materials, the inhabitants are under continual dread of fire, againſt which they take every precaution. The roofs are lightly covered; and at each door ſtands a long bamboo, with a hook at the end, to pull down the thatch: alſo another pole, with a grating of ſplit bamboo at the extremity, about three feet ſquare, to ſuppreſs flame by preſſure. Almoſt every houſe has earthen pots of water on the roof. And there is a particular claſs * of people, whoſe buſineſs it is to prevent and extinguiſh fires.

The *Mayoon's* habitation is a good building, in compariſon with all the other houſes of Pegue. It is raiſed on poſts, ten feet high. There ſeems, from an outſide view, to be many apartments, beſides the hall in which he gives audience. It is in the centre of a ſpacious court, ſurrounded by a high fence of bamboo mats. There is in the hall, at the upper end, a ſmall elevation in the floor, on which the Viceroy ſits when he receives viſits in form.

The object in Pegue that moſt attracts and moſt merits notice, is the Temple of SHOEMADOO †, or the *Golden Supreme*. This extraordinary edifice

 is

* Theſe people are called *Paggaat*. They are ſlaves of the government; men who have been found guilty of theft, and through mercy have had their lives ſpared. They are diſtinguiſhed by a black circle on each cheek, cauſed by punctuation: alſo by having on their breaſts, in BIRMAN characters, the word *Thief*, and the name of the article ſtolen; as on one (that I aſked an explanation of) *Putchoo Khoo*, or *Cloth Thief*.

Theſe men patrole the ſtreets at night, to put out fires and lights after a certain hour. They alſo act as conſtables, and are the public executioners.

† *Shoe* is the *Birman* word for *golden*; and there can be little doubt that *Madoo* is a corruption of the *Hindu* MAHA DEVA or DEO. I could not learn from the *Birmans* the origin or etymology of the term; but it was explained to me as importing a *promontory that overlooked land and water*. *Praw* ſignifies *Lord*, and is always annexed to the name of a ſacred building. It is likewiſe a ſovereign and ſacerdotal title; and frequently uſed by an inferior when addreſſing his ſuperior. The analogy between the *Birmans* and the ancient *Egyptians*, in the application of this term, as well as in many other inſtances, is highly deſerving notice.

Phra

is built on a double terrace, one raiſed upon another. The lower and greater terrace is about ten feet above the natural level of the ground. It is quadrangular. The upper and leſſer terrace is of a like ſhape, raiſed about twenty feet above the lower terrace, or thirty above the level of the country. I judged a ſide of the lower terrace to be 1391 feet, of the upper 684. The walls that ſuſtained the ſides of the terraces, both upper and lower, are in a ſtate of ruin. They were formerly covered with plaiſter, wrought into various figures. The area of the lower is ſtrewed with the fragments of ſmall decayed buildings; but the upper is kept free from filth, and in tolerable good order. There is a ſtrong preſumption that the fortreſs is coeval with this building; as the earth of which the terraces are compoſed, appears to have been taken from the ditch; there being no other excavation in the city, or its neighbourhood, that could have afforded a tenth part of the quantity.

Theſe terraces are aſcended by flights of ſtone ſteps, broken and neglected. On each ſide are dwellings of the *Rahaans*, or prieſts, raiſed on timbers four or five feet from the ground. Their houſes conſiſt only of a ſingle hall. The wooden pillars that ſupport them are turned with neatneſs. The roof is of tile, and the ſides of ſheathing-boards. There are a number of bare benches in every houſe, on which the *Rahaans* ſleep. We ſaw no furniture.

Shormadoo is a pyramid, compoſed of brick and plaiſter, with fine ſhell mortar, without excavation or aperture of any ſort; actagonal at the baſe, and ſpiral

Phra was the proper name under which the *Egyptians* firſt adored the Sun, before it received the allegorical appellation of *Oſiris*, or Author of Time. They likewiſe conferred it on their kings and prieſts. In the firſt book of Moses, chap. xli. Pharaoh gives "Joseph to wife the daughter of *Potiphera*, or the Prieſt of On." In the book of Jeremiah, a king of Egypt is ſtyled, "Pharaoh Ophra." And it is not a very improbable conjecture, that the title Pharaoh, given to ſucceſſive kings of *Egypt*, is a corruption of the word *Phra*, or *Praw*; in its original ſenſe ſignifying the *Sun*, and applied to the ſovereign and the prieſthood, as the repreſentatives on earth of that ſplendid luminary.

ſpiral at top. Each ſide of the baſe meaſures 162 feet. This immenſe breadth diminiſhes abruptly; and a ſimilar building has not unaptly been compared in ſhape to a large ſpeaking trumpet.*

Six feet from the ground there is a wide ledge, which ſurrounds the baſe of the building; on the plane of which are fifty-ſeven ſmall ſpires, of equal ſize, and equidiſtant. One of them meaſured twenty-ſeven feet in height, and forty in circumference at the bottom. On a higher ledge there is another row, conſiſting of fifty-three ſpires, of ſimilar ſhape and meaſurement. A great variety of mouldings encircles the building; and ornaments, ſomewhat reſembling the fleur de lys, ſurround what may be called the baſe of the ſpire. Circular mouldings likewiſe gird this part to a conſiderable height; above which there are ornaments in ſtucco, not unlike the leaves of a *Corinthian* capital; and the whole is crowned by a *tee*, or umbrella, of open iron-work, from which riſes an iron rod with a gilded penant.

The *tee*, or umbrella, is to be ſeen on every ſacred building in repair, that is of a ſpiral form. The raiſing and conſecration of this laſt and indiſpenſible appendage, is an act of high religious ſolemnity, and a ſeaſon of feſtivity and relaxation.

The preſent King beſtowed the *tee* that covers SHOEMADOO. It was made at the capital; and many of the principal nobility came down from *Ummerapoora* to be preſent at the ceremony of putting it on.

The

* Vide Mr. HUNTER's Account of *Pegue*.

The circumference of the *tee* is fifty-ſix feet. It reſts on an iron axis, fixed in the building, and is further ſecured by large chains, ſtrongly rivetted to the ſpire.

Round the lower rim of the umbrella are appended a number of bells, of different ſizes, which, agitated by the wind, make a continual jingling.

The *tee* is gilt; and it is ſaid to be the intention of the King to gild the whole of the ſpire. All the leſſer pagodas are ornamented with proportionable umbrellas, of ſimilar workmanſhip, which are likewiſe encircled by ſmall bells.

The extreme height of the building, from the level of the country, is 361 feet; and above the interior terrace, 331 feet. On the ſouth-eaſt angle of the upper terrace there are two handſome ſaloons, or *keouns*, lately erected. The roof is compoſed of different ſtages, ſupported by pillars. I judged the length of each ſaloon to be about ſixty feet, and the breadth thirty. The ceiling of one of them is already embelliſhed with gold leaf, and the pillars lacquered; the other is not yet completed. They are made entirely of wood. The carving on the outſide is very curious. We ſaw ſeveral unfiniſhed figures, intended to be fixed on different parts of the building; ſome of them not ill ſhapen, and many exceedingly groteſque. Splendid images of GAUDMA (the *Birmen* object of adoration) were preparing, which we underſtood were deſigned to occupy the inſide of theſe *keouns*.

At each angle of the interior terrace is a pyramidical pagoda, ſixty-ſeven feet in height, reſembling, in miniature, the great pagoda. In front of the one in the ſouth-weſt corner are four gigantic repreſentations, in maſonry, of

of PALLOO, or the *man-deſtroyer*, half beaſt, half human, ſeated on their hams, each with a large club on the right ſhoulder. The *Pundit* who accompanied me ſaid, that they reſembled the RAKUSS of the *Hindus*. They are guardians of the temple.

Nearly in the center of the eaſt face of the area are two human figures in ſtucco, beneath a gilded umbrella. One ſtanding, repreſents a man with a book before him, and a pen in his hand. He is called THAGIAMEE, the recorder of mortal merits, and mortal miſdeeds. The other, a female figure kneeling, is MAHA SUMDERE, the protectreſs of the univerſe, as long as the univerſe is doomed to laſt: but when the time of general diſſolution arrives, by her hand the world is to be overwhelmed, and deſtroyed everlaſtingly.

A ſmall brick building, near the north-eaſt angle, contains an upright marble ſlab, four feet high, and three feet wide, on which is a long and legible *Birman* inſcription. I was told it was a recent account of the donations of pilgrims.

Along the north face of the terrace there is a wooden ſhed, for the convenience of devotees who come from a diſtance to offer up their prayers at SHOEMADOO.

On the north ſide of the great pagoda are three large bells, of good workmanſhip, ſuſpended near the ground, between pillars. Several deers' horns are ſtrewed around. Thoſe who come to pay their devotions, firſt take up one of the horns, and ſtrike the bell three times, giving an alternate ſtroke to the ground. This act, I was told, is to announce to the ſpirit of GAUDMA, the approach of a ſuppliant. There are ſeveral low benches near the bottom

of the pagoda, on which the perſon who comes to pray places his offering, which generally conſiſts of boiled rice, a plate of ſweetmeats, or cocoa-nut fried in oil. When it is given, the devotee cares not what becomes of it. The crows and *pariah* dogs commonly eat it up in the preſence of the donor, who never attempts to prevent or moleſt the animals. I ſaw ſeveral plates of victuals devoured in this manner, and underſtood it was the caſe with all that were brought.

There are many ſmall pagodas on the areas of both terraces, which are neglected, and ſuffered to fall into decay. Numberleſs images of GAUDMA lie indiſcriminately ſcattered. A pious *Birman*, who purchaſes an idol, firſt procures the ceremony of conſecration to be performed by the *Rahaans*, then takes his purchaſe to whatever ſacred building is moſt convenient, and there places it either in the ſhelter of a *keoun*, or on the open ground before the temple: nor does he ever after ſeem to have any anxiety about its preſervation, but leaves the divinity to ſhift for itſelf.

Some of thoſe idols are made of alabaſter, which is found in the neighbourhood of the capital of the *Birman* dominions, and admits of a very fine poliſh.

On both the terraces are a number of white cylindrical flags,* which are uſed by the *Rahaans* alone, and are conſidered as emblematic of purity and their ſacred function. On the top of the ſtaff there is commonly the figure of a *henza*, or gooſe, the ſymbol both of the Birman and Pegue nations.

From

* Theſe flags are made of long ſtripes of white cloth, ſewed together at the ſides, and extended by hooks of thin bamboos.

From the upper ledge that ſurrounds the baſe of SHOEMADOO, the proſpect of the country is extenſive and pictureſque; but it is a proſpect of nature in her rudeſt ſtate. There are few inhabitants, and ſcarcely any cultivation. The hills of *Martaban* riſe to the eaſtward; and the *Sitang* river, winding along the plains, gives here and there an interrupted view of its waters. To the north-north-weſt, above forty miles, are the *Galladzet* hills, whence the Pegue river takes its riſe; hills remarkable only for the noiſome effects of their atmoſphere. In every other direction the eye looks over a boundleſs plain, chequered by a wild intermixture of wood and water.

Previous to my departure from Pegue, I paid a viſit to the *Sireâaw*, or ſuperior *Rahaan*, of the country. His abode was ſituated in a ſhady grove of tamarind trees, about five miles ſouth-eaſt of the city. Every object ſeemed to correſpond with the years and dignity of the poſſeſſor. The trees were lofty. A bamboo railing protected his dwelling from the attack of wild beaſts. A neat reſervoir contained clear water. A little garden gave him roots; and his retreat was well ſtocked with fruit-trees. A number of younger *Rahaans* lived with him, and adminiſtered to his wants with pious reſpect. Though extremely emaciated, he ſeemed lively, and in full poſſeſſion of his mental faculties. He ſaid his age was eighty-ſeven. The *Rahaans*, although ſupported by charity, never accept of money. I therefore preſented this venerable prelate of the order with a piece of cloth, which was repaid by a grateful benediction. He told me that, in the convulſions of the Pegue empire, moſt of their valuable records had been deſtroyed; but it was traditionally believed, that the temple of SHOEMADOO was founded two thouſand three hundred years ago, by two brothers, merchants, who came to Pegue from *Talowmeou*, one day's journey eaſt of *Martaban*. Theſe pious traders raiſed a pagoda of one *Birman* cubit, twenty inches and a half in height. SIGEAMEE, or the ſpirit that preſides over the elements, and directs the thunder and lightning, in

the ſpace of one night, increaſed the ſize of the pagoda to two cubits. The merchants then added another cubit, which SIGEAMEE likewiſe doubled in the ſame ſhort time. The building thus attained the magnitude of twelve cubits, when the merchants deſiſted. That the pagoda was afterwards gradually increaſed by ſucceſſive monarchs of Pegue; the regiſters of whoſe names, and the amount of their contributions, had been loſt in the general ruin: nor could he inform me of any authentic archives that ſurvived the wreck.

Of the deficiency of the foregoing account of the city of Pegue, and the temple of SHOEMADOO, I am fully ſenſible. Authentic documents were not to be procured; and the ſtories related, in anſwer to oral enquiries, were too extravagant to merit attention. That Pegue was once a great and populous city, the ruins of buildings within the walls, and the veſtiges of its extenſive ſuburbs, ſtill extant, ſufficiently declare. Of the antiquity of SHOEMADOO there is no reaſon to doubt: and as a pile of building, ſingular in its conſtruction, and extraordinary for its magnitude, it may juſtly be numbered amongſt the moſt curious ſpecimens of oriental architecture.

VIII.

Deſcription of the Tree called, by the Burmas, LAUNZAN.

BY

FRANCIS BUCHANAN, Esq. M. D.

BEFORE my ſetting out to accompany the late deputation to the court of *Ava*, I received ſome ſeeds, which had been ſent to SIR JOHN SHORE from *Pegue*. It was conceived that they might be uſefully employed to yield oil, with which they ſeemed to abound: I was therefore particular in making my enquiries after the plant producing them. I ſoon learned that they were produced only in the upper provinces of the kingdom; and, on my arrival there, I found myſelf ſtill at a diſtance from the tree on which they grow. It is ſaid only to be found on the mountains; and theſe I had no where an opportunity of examining. With ſome difficulty, however, I procured, whilſt at *Amerapoora*, ſome young ſhoots, with abundance of the flowers, and ſeveral young plants in a growing ſtate: and while at *Pagam*, on our return, I procured many branches with the young fruit. Unluckily, all the young plants died before I reached *Bengal*; otherwiſe, I believe, they might have been an acquiſition of ſome value. The tree is ſaid to be very lofty; and, from what I ſaw, muſt produce immenſe quantities of the fruit; as may readily be conceived from looking at the drawings; where it muſt be obſerved, that the fruit-bearing branch has had by far the greateſt part of its produce ſhaken off by the carriage. In times of plenty, little uſe is made of the fruit, except for yielding oil, as had been expected; and beſides, a ſmall quantity of the ſeeds are gathered, and ſent to all parts of the empire, where they are

uſed for nearly the ſame purpoſes that almonds are amongſt us; but the demand in this way cannot be conſiderable.

It is in times of ſcarcity that the fruit becomes valuable. It is ſaid, when ripe, to be red; and, like a peach, conſiſts of a ſucculent outer fleſh, containing a hard ſhell, in which there is a ſingle ſeed. The outer fleſhy part is ſaid to be agreeably acid, and ſafe to eat. When that is removed, the ſhells, by a ſlight beating, ſplit in two, and are thus eaſily ſeparated from the kernel. Theſe kernels taſte very much like a walnut; but are rather ſofter, and more oily. As they can, at thoſe places where the trees grow, be afforded very cheap, in times of ſcarcity they are carefully gathered; and, when boiled with a little rice or *Indian* corn, furniſh a great part of the food of the lower claſs of the natives.

I ſhall now add ſuch a botanical deſcription of the plant as will enable it to be reduced in to the vegetable ſyſtem; although not in every reſpect complete, owing to my not having ſeen the tree or the ripe fruit. I believe it will be found to conſtitute a new genus; but I do not venture to give it a name, till the *European* botaniſts have aſcertained, whether or not it be reducible to any known genus of plants. In the botanical deſcription I uſe the *Latin* language; as I am not yet ſufficiently acquainted with the technical terms introduced into the *Engliſh* by the *Litchfield* Society, to uſe them with facility.

Character Eſſentialis. Cal. 1 phyll, petala 5, receptaculo inſerta, ſtam. 10, receptaculo inſerta. Nect. maximum, orbiculatum, 10 ſulcum, germen involvens. Styli 5, conniventes. Drupa monoſperma, nuce bivalvi. Habitat in montoſis regni Barmanorum.

ARBOR elata ramis fuſcis nudis; ramulis folioſis. Ramuli floriferi glabri, rubicundi, viridé-punctati; fructiferi rimoſi.

FOLIA approximata, alterna, petiolata, oblonga, basi attenuata, integra, integerrima, retusa, glabra, venis reticulata.

FULCRA, petiolus anceps, acutangulus, breviſſimus, glaber. Stipulæ, pubes, arma cirrhi nulla.

INFLORESCENTIA. Paniculi axillares ad apices ramorum congesti, laxi, nudi, foliis longiores, ramoſſiſſimi; ramis teretibus, horizontalibus, ſparſis. Flores parvi, albidi, plurimi, pedicellati, ſparſi. Racemi fructiferi penduli, foliis multo longiores. Fructus rubri, aceſcenti-dulces.

CAL. perianthum proprium monophyllum, concavum, corollâ brevius, quinquefidum: laciniis obtuſis. Laciniæ calycis aliquando tres, ſæpius quatuor.

COR. petala quinque, rarius ſex, receptaculo inſerta, ſeſſilia, ſublinearia, obtuſa, revoluta.

NECT. Maximum, in centro floris orbiculatum, depreſſum, decem-ſtriatum, germen involvens.

STAM. Filamenta decem, ſubulata, erecta, petalis breviora, receptaculo inſerta, antheræ parvæ, ovatæ.

PIST. Germen ſuperum. Nectario tectum. Styli quinque ſubulati, erecti, conniventes, longitudine ſtaminum, ſtigmata obtuſa.

PER. Drupa compreſſa, obovata, obtuſa, obtuſo-carinata, unilocularis.

SEM. Nux unilocularis, compreſſa, ſub-bivalvis, dehiſcens; ſemen ſolitarium, hinc acutum, inde craſſum carinatum.

AFFINIS, ordine naturali, terminaliis proximus habitu, generi a Roxburgio *tſaroo mamaday* dicto, ſed nectaria diverſiſſima, characterem habet non nihil ſimilem generi altero, a Roxburgio *chitraca* dicto, ſed habitus diverſi; ſingularis eſt drupa monoſperma cum ſtylis quinque; ſimile aliquod tamen occurrit in genere Roxburgiano *odina*.

A SAPONARIA diverſum genus, drupâ uniloculari.

IX.

Specimen of the Language

OF THE

PEOPLE INHABITING THE HILLS IN THE VICINITY OF BHAGULPOOR.

Communicated in a Letter to the Secretary,

BY

MAJOR R. E. ROBERTS.

PERCEIVING that the very full and ſatisfactory account of the people inhabiting the hills in the vicinity of *Bhagulpoor*, by Lieutenant SHAWE, in the Fourth Volume of the *Aſiatick Reſearches*, is unaccompanied by any ſpecimen of their language, ſhould the following one be acceptable as a ſupplement to that account, or you deem it deſerving the notice of the Society, I ſhall be obliged by your laying it before them, as I can rely on the correctneſs of it.

Mr. SHAWE having obſerved that theſe people have no writing character, I juſt beg leave to add, that, when I was on duty at *Rajahmahl*, ſeveral years ago, a hill chief ſent a verbal meſſage to the commanding officer, expreſſing a wiſh to wait upon him. Being deſired to appoint a day for that purpoſe, he tranſmitted a ſtraw with four knots upon it, which was explained by the meſſenger who brought it, to intimate, that his maſter would come on the fourth day.

The

The Head	Cook.	The Eyelaſh	Cunmeer.
Eyebrow	Cunmudbâ.	Cheek	Cullâ.
Noſe	Moēē.	Chin	Kyboo
Throat	Cuſſer.	Tooth	Pul.
Armpit	Buddee puckda.	An Arm	Tât buddee.
Blood	Keeſs.	Breaſt of a Woman	Doodah.
A Finger	Angillee.	Heel	Teeknâ.
The Breaſt	Bookah.	Fleſh	Māāk.
Belly	Coochah	A Fever	Meed.
Loins	Cudmah.	Headake	Cooknogee.
Back	Cookah.	Cholick	Coochoohoogee.
A Vein	Nâroo.	A Tiger	Toot.
Toe	Cuddah Angillee.	Dog	Alah.
Hair	Tullee.	Ant	Choobah.
An Eye	Cun.	Kite	Chunneeâdee.
Ear	Kydoob.	Paroquet	Apud.
The Countenance	Treſoo.	Fly	Teelcur.
Beard	Pâchoodee.	Bee	Ook.
Throat	Tood.	Heaver	Surruncuſſa.
Shoulder	Dupna.	A Star	Badckah.
A Nail (of Finger)	Ooruk.	Cloud	Badelee.
A Lip	Boocootooda.	Cow	Ooee.
Navel	Cood.	Jackal	Cheecâloo.
Buttock	Moodoocudmullâ.	Cat	Beerkah.
Liver	Cuckâlee.	Cock	Noogeer.
The Foot	Chupta.	Crow	Câcah.
A Bone	Coochul.	Dove	Poorah.
Forehead	Neepee.	Pigeon	Cooteerah.

A Scorpion	Teelah.	Oil	Heeſcun.
A Buffalo	Mung.	A Turband	Doomee, Cocudee.
A Hog	Keeſs.	A Tree	Mun.
A Deer	Chutteedah.	Linen Cloth	Lookâ.
A Hen	Dooteegeer.	Cold	Kaidah.
A Bat	Cheedgoo.	Heat	Oomee.
A Snake	Neer.	A Houſe	Adâ.
A Fiſh	Meen.	North	Colah.
Male, maſculine	Peechâlah.	South	Purrubmoha.
Sunſhine	Beer.	Weſt	Beerhotroo.
Moonſhine	Beelah.	A Peacock	Choobah.
Lightning	Chudkah.	Sweet	Ameebade.
Light	Abublee.	Bitter	Câdkah.
Earth	Kycul.	Sour	Seeteed.
A Stone	Châchah.	Prayer, worſhip	Aydecootee.
An Arrow	Châr.	*Hinduſtan*	*Coler.*
A Bone	Eedut.	Wheat	Gyhoom.
Fire	Chuchah.	To ſleep	Cooda.
Water	Oom.	To beget, procreate	Keena.
Graſs	Doobah.	To ſleep	Cunderco.
Food	Jacoo.	To go	Aycoocoo.
Bread	Putteeâ.	To tear	Aſeehee.
Cloth	Durjâ.	To ſqueeze, preſs out	Ayrcoo.
Black	Fudcooroa.		
White	Cheen burroo.	To grind	Tudyecâ.
Red	Kyſoo.	To know, underſtand	Booje een.
Yellow	Balcoo.		
Rice	Teekeel.	To rub	Mâleeâ.

To break	Turrâ.	This	Bhee.
To ſound	Ahootee.	Him	Naheen.
To laugh	Alkee.	They	Nuckeed.
To weep	Boolkee.	Ignorant	Oo cullee mulla
To pull, draw	Bundra.	Juſtice	Muzcoor.
A River	Abeen.	Which	Chuchee.
Salt	Beek.	A Liar	Puſſeearee.
A Cup	Coree.	A Rope, Cord	Meer.
Below, under	Tuttâ.	A Hill	Tookah.
A Tent Rope	Jumkâ.	Sick	Chootah.
High	Aikâ.	A Sheet	Chuppoodah.
A Door	Dowaree.	Left (Hand or Side)	Akdo.
A Flower	Kâdah.	Crooked	Deeza.
Game (Beaſts of)	Cubbree.	Sand	Bâlah.
An Ideot	Bootah.	Accuſation,	Mâſee.
The World	Oorahâ.	Complaint	
A Mat	Tâlee.	A Garment, Veſt	Joolee.
Before	Moodâhee.	Phyſick	Bhudder.
Why	Pundreek.	A Saſh	Sujar.
Me, to me	Aykee.	A Mill	Mookah.

X.

An Account of the Diſcovery of Two URNS in the Vicinity of BENARES.

By JONATHAN DUNCAN, Eſq.

I HEREWITH beg leave to deliver to the Society a Stone and a Marble Veſſel, found the one within the other, in the month of January, 1794, by the people employed by BABOO JUGGUT SING in digging for ſtones from the ſubterraneous materials of ſome extenſive and ancient buildings in the vicinity of a temple called *Sarnauth*, at the diſtance of about four miles to the northward of the preſent city of *Benares*.

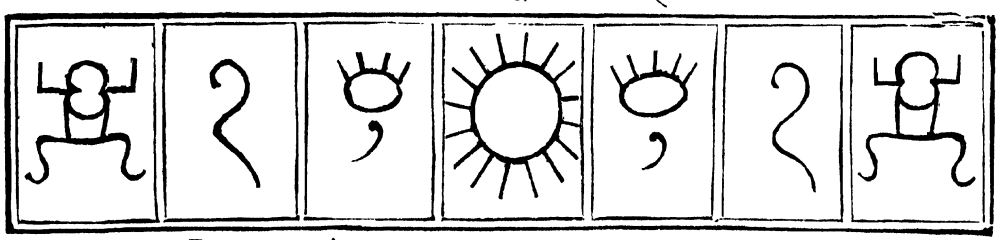
In the innermoſt of theſe caſes (which were diſcovered after digging to the depth of eighteen *hauts*, or cubits, under the ſurface) were found a few human bones, that were committed to the *Ganges*, and ſome decayed pearls, gold leaves, and other jewels of no value, which cannot be better diſpoſed of than by continuing in the receptacle in which they muſt have ſo long remained, and been placed upon an occaſion on which there are ſeveral opinions among the natives in that diſtrict. The firſt, that the bones found along with them, may be thoſe of the conſort of ſome former Rajah or Prince, who having devoted herſelf to the flames on the death of her huſband, or on ſome other emergency, her relations may have made (as is ſaid not to be unprecedented) this depoſit of her remains as a permanent place of lodgment; whilſt others have ſuggeſted, that the remains of the deceaſed may have probably only been thus temporarily diſpoſed of, till a proper time or opportunity ſhould arrive of

committing them to the *Ganges*, as is uſually obſerved in reſpect to theſe *puſhpa*, or flowers; a term by which the *Hindus* affect to diſtinguiſh thoſe reſiduary veſtiges of their friends dying natural deaths, that are not conſumed by the fire, to which their corpſes are generally expoſed, according to the tenets of their religion.

But I am myſelf inclined to give the preference to a concluſion differing from either of the two former, viz. that the bones found in theſe urns muſt belong to one of the worſhippers of BUDDHA, a ſet of *Indian* heretics, who, having no reverence for the *Ganges*, uſed to depoſit their remains in the earth, inſtead of committing them to that river; a ſurmiſe that ſeems ſtrongly corroborated by the circumſtance of a ſtatue or idol of BUDDHA having been found in the ſame place under ground, and on the ſame occaſion with the diſcovery of the urns in queſtion, on which was an inſcription, as per the accompanying copy of the original, aſcertaining that a temple had between 7 or 800 years ago been conſtructed there for the worſhip of that deity.

Copy of the original Inſcription referred to in the preceding Paper.

मोवुद्धाय वाराणसीसरस्यां गुरीः श्रीधामराशिपाद
ाराध्यनमितनृपति शिरोरुहैः शेवलाकीर्णम् १
पालचित्रयष्ट्यादि कीर्त्तिरत्नधराचयः
ाडाधिपोमहीपालः काश्याश्रीमानकारयत् २
हजी कृत पांडित्यौ वोद्धारावनिवर्त्तिनौ
ा धर्म्मं राजिकं सांगं धर्म्मचक्र पुनर्न्नवम् ३
त वंतौ च नवीन मेषुमहास्थानशैलराजकुटीम्
नां श्री स्थिर पालो वमंनपालोनुजः श्रीमान् ४
म्वत् १० ८३ पौष दिन ११



धर्म्मं हेतु प्रकरो हेतुं तेषां तथाफले ह्यवदत्
षां च यनविरोधावंतादी महाश्रमणः

XI.

Account of ſome Ancient Inſcriptions.

THE Preſident lays before the Society a Fac Simile of ſome Ancient Inſcriptions, received from SIR CHARLES WARE MALLET. They were taken by MR. WALES, a very ingenious artiſt, who has employed himſelf in making deſigns of the excavations and ſculptures at *Ellura*, and other parts on the weſtern ſide of *India*. To the ingenuity of LIEUTENANT WILFORD, the Society is indebted for an explanation of the Inſcriptions. They are, as he obſerves, of little importance; but the publication of them may aſſiſt the labours of others in decyphering more intereſting manuſcripts or inſcriptions. The following Extract of a Letter from LIEUTENANT WILFORD, containing his Tranſlation of the Inſcriptions, accompanies them.

I HAVE the honour to return to you the fac ſimile of the ſeveral inſcriptions, with an explanation of them. I deſpaired at firſt of ever being able to decypher them; for as there are no ancient inſcriptions in this part of *India*, we never had, of courſe, any opportunity to try our ſkill, and improve our talents, in the art of decyphering. However, after many fruitleſs attempts on our part, we were ſo fortunate as to find at laſt an ancient ſage, who gave us the key, and produced a book in *Sanſcrit*, containing a great many ancient alphabets formerly in uſe in different parts of *India*. This was really a fortunate diſcovery, which hereafter may be of great ſervice to us. But let us proceed.

Number II. and VI. are pure *Sanſcrit*; and the character, though uncouth, is *Sanſcrit* alſo.

The other numbers, viz. I. III. IV. and V. are written in an ancient vernacular dialect; and the characters, though very different from thoſe now in uſe, are nevertheleſs derived from the original or primæval *Sanſcrit*, for the elements are the ſame.

I have exhibited theſe numbers in one ſheet. The Inſcriptions are firſt written in their original dialect, but in *Sanſcrit* characters. To this is annexed a tranſlation in *Sanſcrit*; and both the original dialect and the *Sanſcrit* tranſlation are exhibited in *Engliſh* characters.

The numbers I. III. IV. and V. relate to the wanderings of YUDISHTIRA and the PANDOVAS through foreſts and uninhabited places. They were precluded, by agreement, from converſing with mankind; but their friends and relations, VIDURA and VYA'SA, contrived to convey to them ſuch intelligence and information as they deemed neceſſary for their ſafety. This they did by writing ſhort and obſcure ſentences on rocks or ſtones in the wilderneſs, and in characters previouſly agreed upon betwixt them. VYA'SA is the ſuppoſed author of the *Puránas*.

No. I.

Conſiſts of four diſtinct parts, which are to be read ſeparately. In the firſt part, (1,) either VIDURA or VYA'SA informs YUDISHTIRA of the hoſtile intentions of DURYODHEN.

" From what I have ſeen of him (DURYODHEN,) and after having fully
" conſidered (the whole tenor of his conduct,) I am ſatisfied that he is
" a wicked man. Keep thyſelf concealed, O chief of the illuſtrious!"

In

In the 2d part of No. I.

" Having firſt broken the ſtone (that cloſes thy cave) come here ſecretly, old
" man, that thou mayeſt obtain the object of thy deſire. Thy ſufferings
" vex me ſore."

In the 3d part of No. I.

" O, moſt unfortunate, the *wicked* is come."

In the 4th part of No. I.

YUDISHTIRA and his followers being exhauſted with their ſufferings, made overtures of peace through VIDURA and VYA'SA. They had at firſt ſome hope of ſucceſs, when ſuddenly an end was put to the negociation, and affairs took another turn. This piece of intelligence they conveyed to YUDISHTIRA in the following manner:

4th. " Another word."

This expreſſion, in an adverbial form, is ſtill in uſe to expreſs the ſame thing.

No. III.

" O, worthy man, *O, Hara-hara,*" (*Hara-hara*, the name of MAHADE'VA, twice expreſſed, is an exclamation uſed by people in great diſtreſs,)
" aſcend into thy cave—Hence ſend letters—But into thy cave go ſe-
" cretly."

No. IV.

" Thou wilt ſoon perceive that they are leagued together, and that their
" bellies (appetites) are the only rule of their conduct. Decline their
" friendſhip—See the door of yon cave—Break it open, (and conceal
" thyſelf therein.")

No. V.

" Go into the town immediately—But do not mix with them—Keep thy-
" ſelf ſeparate as the lotos (from the waters in which it floats.)—Get
" into the houſe of a certain ploughman, and firſt remain concealed
" there; but afterwards keep thyſelf in readineſs."

The two following numbers allude to the worſhip of BUDDHA.

No. II.

" Here is the ſtatute of SA'CYA-UDA'RACA, (now a form of BUDDHA,) but
" who was before a *Brahmacári*, called SRI'-SOHILA."

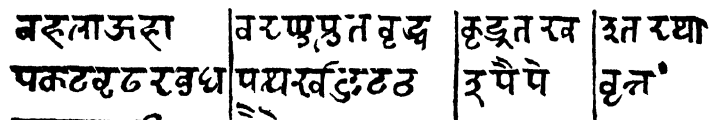
No. VI.

" SA'CYA-PA'DA'MRATA made this ſtatute."

My learned friends here inſiſt that theſe Inſcriptions were really written by the friends of YUDISHTIRA. I doubt this very much. Theſe Inſcriptions certainly convey little or no information to us: ſtill our having been able to decypher them is a great point in my opinion, as it may hereafter lead to further diſcoveries, that may ultimately crown our labours with ſucceſs. Indeed, your ſending them to me has really been the occaſion of my diſcovering the above-mentioned book, which I conceive to be a moſt fortunate circumſtance.

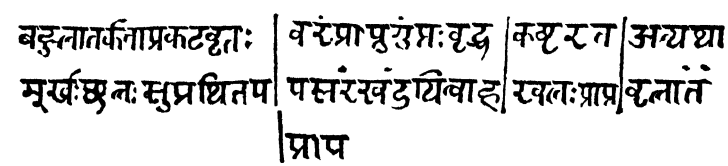
F. WILFORD.

No. I.



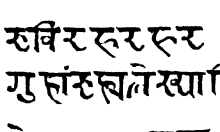
बहलाऊहा	वरप्पुप्रुत वृद्ध	कृद्रुत रव	इत रथा
पकटवृढ रवध	पत्थर्खंडुटठ	इपैपे	वृत्त
गुप्तसुपुथितप	पैपे		
Bhalá úhá pacat'ha vra'dhara bud'ha gupta ſuputhitapa	*Varappru pluta vradd'ha patthare'hatút'ha t'ha paipé*	*Cra'drata c'ha-i paipé*	*Itaratthá vrattam*

The ſame in *Sanſcrit.*



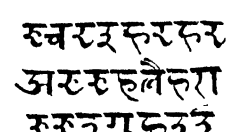
बहुलातर्कनाप्रकटवृतः	वरंप्राप्तुगुप्तःवृद्ध	कष्टरत	अन्यथा
मूर्खःछलःसुप्रथितप	पसरंखंडयित्वाह	खलःप्राप्त	वृत्तांतं
	प्राप		
Bahulá tarcaná pracatá vratah múr'hah ch'hannah ſuprathitapa.	*Varam práptum guptah vraddha praſtaramc'han'dayitwá ha prápa.*	*Caſhtarata c'halah práptah.*	*Anyathá vrattántam.*

No. III.



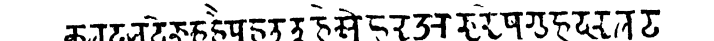
रुविरहरहर	*Ruchara Hara-hara*
गुहांरुह्यलेख्यानि	*aruruha léhaé*
प्रेषयगूढःगच्छ	*rurui guha rí.*

The ſame in *Sanſcrit.*



रुचरइहरहर	*Ruchira Hara-hara*
अरुरुहलैहरा	*guhám ruhya lic'hyáni*
रुरुइगुहइई	*préſhaya gú'dhad gach'ha.*

No. IV.



कलद्रजटेरुहहैपहइइहेसेहरअरुरेषगुहदरलट

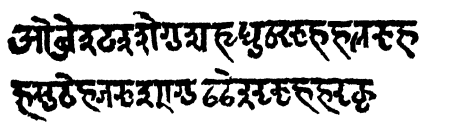
Cala-i jat'hé ruhahai paha-i thé ſnéharah aruré ſhaguhadara latá.

The ſame in *Sanſcrit.*

जानीहिजटरेरुढाःप्रहितंइछंतिसेहंआहरणतद्गुहाद्वारंलिख

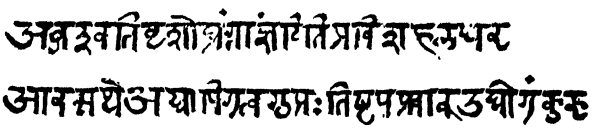
Janíhi jat'haré rú'dháh prahitam ich'hanti ſnéham áhara étadguhá dwáram lic'ha.

No. V.



Objé-i t'ba-i ſhégu ſabru d'but'bara ruba bala ruba haſuté hajé ru-i-é gud'ba te i raru baharacru.

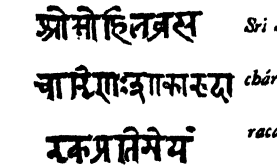
The ſame in *Sanſcrit.*



Alja iva tiſhta ſighram grámam jhatiti praviſahalad'bara ávaſathé adyápi gatwá guptah tiſhta pas'chát ud'byogam curu.

Pure *Sanſcrit.*

No. II.



Sri Sobila Brahma-
chárinah Sácyarud'a-
raca pratiméyam.

Pure *Sanſcrit.*

No. VI.

Sácya Pádámrata cratá pratimá.

XII.

OBSERVATIONS on the ALPHABETICAL SYSTEM

OF THE

LANGUAGE of ĂWĂ and RĂC'HAIŃ.*

By CAPTAIN JOHN TOWERS.

THE annexed *Plate* † is a Specimen of the Alphabet of the Language of *Awă* and *Răc'haiń*, agreeably to the Arrangement adopted by the *Brăimmas* and *Mărămăs*, or Natives of thoſe Kingdoms.

To avoid tedious and perplexing reference, it was thought adviſeable to place under each ſymbol its characteriſtic repreſentative in *Roman* letters. In doing this, more than common attention has been paid to preſerve the notation laid down in the elegant and perſpicuous "Syſtem and Diſſertation on the Orthography of *Aſiatick* Words in *Roman* Letters," commencing the Firſt Volume of the Reſearches of the Society; at leaſt, as far as its typical arrangement correſponded with the ſyſtem under diſcuſſion; and where a variation rendered it neceſſary, new combinations or ſymbols have been introduced, and obſervations ſubjoined for their elucidation.

The abecedary rules, as taught by the natives, are, in their aggregate capacity, called *Sáńbuń*, or, *The Syſtem of Inſtruction*. They are claſſed under three diſtinct

* *Ava* and *Aracan*. † Plate I.

distinct heads; and these again divided into thirty subordinate divisions, by the inflection of the primary letters, or alphabet properly so called, with the three classes of vowels *ărwi*, *ăsăiĭne*, and *ăsăiĭcri*, and four other marks. The instruction commences, however, with eighteen sounds, to prepare the pupil, as it is said, for the greater difficulties that are to follow. These sounds are included in what is taught subsequently, though ten of their symbols are not, which are therefore subjoined in the annexed Plate.

I.

Of the several series as they occur in the *Plate*, the first is *căgric'he*, or *the alphabet*; respecting which there is little to observe. In certain cases, to facilitate utterance, *c* is permuted with *g*, *ch* with *j*; the *second d* with the *second t*, *p* with *b*, and conversely. Of those sounds that have more than one symbol, the *first c'h*, *ch'h*, *l*; *second t*, *d*, *n*; and *third t'h*, are in general use; also the *second p'h*; except in those instances where it does not associate with the *four marks* that will appear under the following head.

II.

These are the *four marks* alluded to above. Their names, as they occur in the *Plate*, are *ăpān*, *ărăiĭ*, *hnăch'hwe*, *hmăch'hwe*, &c. according to the letter it is associated with, and *wăch'hwe*.

ăpān.

The mark of this symbol is *y*; though it might more properly, and sometimes more conveniently, be marked by our third vowel, commencing a diphthong. The letters to which it is affixed, are *c*, *c'h*, (1,*) *g*, *t*, (2,) *p*, *p'h*, (1,) *b*, *m*, *l*, (1,)

* The figures refer to the archetype in the *Plate*.

l, (1,) *s*. To this laſt it gives nearly the ſound of our *sh*; which notation it is neceſſary to preſerve, though probably not conformable to the ſtrict rules of analogy. Poſſibly the conſtituent parts of this ſound are the *palatial ſibilant*, and *i*, coaleſcing with a following vowel.

Arărit.

This mark is typified by *r*, and is always prefixed to the letters with which it aſſociates. Theſe are *c*, *c'h*, (1,) *g*, *ṅ*, *ch'h*, (1;) *t*, (2;) *p*, *p'h*, (1;) *b*, *m*. With *ch'h* it forms a very harſh combination. But it is to be obſerved, that it is the nature of this, as well as of all the marks, either ſeparately, or in their ſeveral combinations, to coaleſce into one ſound with the aſſociated letter as nearly as the organs of articulation will admit. Its name *ărăit* deſignates its natural form, meaning *erect* or *upright*.

Hmăch'hwe.

This extraordinary mark forms a new claſs of aſpirates. Its name ſignifies *ſuſpended*, from its ſituation with reſpect to the letter. The letters under which it is placed, are *n*, *ny*, *n*, (2;) *m*, *r*, *l*, (1;) *w*, *s*; before the *firſt ſeven* of which its type is *h*.* *s* it hardens into *z*, the appropriate ſymbol; or adds a ſyllable to the inherent vowel, as *sămi*, a daughter, which may be either written with the mark before us, or by *m*.† In the introductory part to *the ſyſtem*,‡ it ſays, 'when the breath is obſtructed by the preſſure of the tongue (againſt the roots of the upper teeth, or probably againſt the palate) and forced between the teeth on either

* The aſpirate ſo evidently precedes the letter in pronunciation, that, however inclination may lead to make the ſymbol follow the letter, as is uſual in the other aſpirates, in this inſtance it cannot be done without an offenſive violation of all analogy.

† See *Plate* I. *a*.

‡ That commences the *firſt* volume of the Reſearches of the Society. For the ſake of brevity, it will be quoted throughout by this title.

either ſide of it, a liquid is formed peculiar to the *Britiſh* dialect of the *Celtick.*' We have found, however, this very ſound in the mark before us when aſſociated with *l.* If this be the ſound repreſented by *ll*, as in the common ſurname *Lloyd*, the notation is but ill-ſuited to give an idea of its powers. In the combination of this mark with *ăpāṅ*, the only letters of aſſociation are *m* and *l*; and with *ārăit*, *ṅ* and *m*; the ſymbol being formed, as in the original, of the component parts.

Wăch'hwe,

or the *ſuſpended w*, is ſubtended to every letter, excepting that with which it correſponds in the alphabet. Its ſymbol is *w*, but ſubject to certain changes and ſuppreſſion, the particular inſtances of which will appear when the vowels come to be treated of. This mark with the letter *h*, and the one immediately preceding with the letter *w*, form two combinations for the ſame ſound; which is that of *wh* in the word *what.* In its aſſociations with the other marks, it is governed by the ſame rules, and governs the ſame letters as already related under their ſeparate and combined forms; with an exception, however, to its homogeneous character in the alphabet. With *ăpāṅ*, and *ăpāṅ hmăch'hwe* and *hlăch'hwe*, we have the genuine ſound of our *third* vowel forming a diphthong with the *fifth*; as *miuwă*, *hmiuwă*, *hliuwă*; the diphthong in theſe inſtances having preciſely the ſame ſound as in our word *lieu*: but, to preſerve the notation here laid down, it muſt be typified by *y*, as *mywă*, *hmywă*, *hlywă*; though it might more properly be repreſented by its conſtituent parts, as in the firſt example.

3, 4, 5.

Theſe are the *three ſeries of vowels* and *naſal marks.* The firſt is called *ărwi*, or *written*, ſimply;* the ſecond *ăsăiṫne*, from the root *săil*, to ſtrike, (owing to

* A letter is alſo ſaid to be *ărwi* when uninflected.

to the mark *ăsăiĺ* or *tăńc'hwăiń* that is ſtruck in writing from the top of the *final* letter) and *ṅe*, ſmall; and the third *ăsăiĺcri*, from the ſame, and *cri*, large, great, in conſequence of the proportion of the *firſt* ſeries that is ingrafted into it being more than in the ſecond.

The alphabet, in its ſeveral aſſociations with *ăpăṅ*, *ărăiĺ*, *hṅăch'hwe*, and *wăch'hwe*, is, with only one exception, uniformly inflected throughout with the three ſeries of vowels and naſal marks in regular rotation as they occur in the Plate. The inſtance to the contrary is *wăch'hwe*, which is altogether excluded in the alphabetical inflection of *ăsăiĺcri*.

Except as a compound, the firſt vocal ſound, as deſcribed in the ſyſtem, has no place in the language before us. And there is yet a more ſtriking ſingularity; which is, that every ſyllable is liquid, as it were, in its termination, each letter having its peculiar vowel or naſal mark ſubjoined, and in no inſtance coaleſcing with a following letter. But, to elucidate it by inſtances from our own language: were a native of *Ava* or *Aracan* merely acquainted with the Roman letters, and that ſuch and ſuch ſymbols repreſented ſuch and ſuch ſounds, without knowing their rules of aſſociation, to read the words *book*, *boot*, *bull*, he would, agreeably to the powers he is taught to affix to the characters of his own language, pronounce them uniformly *bŭ*, or *bŭcă*, *bŭtă*, *bŭlă*, reſpectively. And he could not poſſibly do otherwiſe; the organs of articulation being inadequate to give utterance to the final letters according to the abrupt mode by which we are inſtructed to terminate thoſe words. It need ſcarcely be obſerved, that hence each letter of the alphabet properly ſo called is uſed as a *ſyllabic initial*, and *never* as a *medial* or *final*, if we except the *naſals*. But here we only ſpeak as far as pronunciation is concerned. There is reaſon to ſuppoſe that this ſingularity is not peculiar to the language

we are treating of, but that the *Chineſe* is formed upon the ſame principle; and probably ſome of the *African* dialects, if the analogy obſervable in the mode in which ſome natives of that quarter of the globe pronounce exotick words, and that of the *Mărămăs*, be ſufficient ground for the ſuggeſtion. Whether the language of *Tibet* be not alſo, a member of the Society may be poſſibly able to determine. A native of *Aracan*, of naturally ſtrong parts, and acute apprehenſion, with whom more than common pains have been taken for many months paſt to correct this defect, can ſcarcely now, with the moſt determined caution, articulate a word or ſyllable in *Hindúſtani* that has a *conſonant* for a *final*, which frequently occaſions very unpleaſant, and ſometimes ridiculous equivocations; and ſuch is the force of habit even to making the moſt ſimple and eaſy things difficult, that as obvious as the *firſt elementary ſound* appears to our comprehenſion, in an attempt that was made to teach him the *Nágari* character, of which it is the *inherent* vowel, a number of days elapſed before he could be brought to pronounce it, or even to form any idea of it, and then but a very imperfect one.

The *Plate*, as has been already obſerved, ſhews the alphabetical arrangement adopted by the natives. It will be more convenient, however, in treating of the three ſeries of vowels and naſal marks, to throw them into claſſes; not only for the ſake of perſpicuity, but to avoid the irkſome taſk of endleſs repetition.

ă, ā, ȁ, ăĉ.

Our extended ſound in *all*, and its contracted one in *fond*, are the baſis of theſe four vowels. The firſt is pronounced with an accent peculiarly acute, by an inflection pretty far back of the tongue towards the palate, terminated

by

by a kind of catch. It ſeems, however, to drop this diſtinction when followed by a grave accent, as *tărà*, juſt; a property that it would appear to poſſeſs in common with the other vowels diſtinguiſhed by *acute* accents. It is inherent in every vowel, which may be the reaſon why it is placed laſt in the alphabet. The accent of the third is as remarkably *grave* as the other is *acute*; the ſecond forming a medium between both, being our broad vowel in *all*; while the fourth is a guttural, analogous to the *Arabian kaf*; a ſuppreſſion of the final utterance by which this is characterized as a conſonant, being all that is neceſſary to form the ſound before us.

i, *ì*, *il*.

The two firſt are accented in the ſame proportion as *ă* and *à*, only with ſomewhat leſs force. The laſt is pronounced with an effort unuſually harſh, by a ſtrong inflection of the centre part of the tongue towards the palate. It ſeems to form a ſound between the third vowel of the ſyſtem and the actual articulation of its final letter, with which a foreigner, from mere oral knowledge, would moſt probably be induced to write it. No doubt, however, exiſts of its being a vowel, as attention to the mode in which a native pronounces it will fully demonſtrate. The conſtituent ſound in *ăpān* being our third vowel, in the inflection of thoſe letters which take that mark with the three vowels before us, the variation in their aſſociated and unaſſociated capacity is not eaſily diſcernible at firſt, but the difference is diſcovered in a day or two's practice by the aſſiſtance of a native.

u, *ù*, *up*.

The *grave* and *acute* accents of the laſt ſeries characterize the two firſt of the preſent; the third being formed by a ſudden reciprocation of the tongue with

with an appulſe nearly of the lips, ſo as to convey an idea of fulneſs; or, if the expreſſion may be allowed, a remarkable roundneſs of ſound united to an uncommonly obtuſe and abrupt termination, a peculiarity that marks thoſe vowels of the ſeries *ăsăiĭne* and *äsâiĭcri*, that have *mutes* for the double letter. To this obſervation, however, there is an exception, which will be taken notice of in its proper place. The ſound of the letter, when aſſociated with *wăch'hwe*, and inflected by the two firſt of theſe vowels, remains the ſame as in its unaſſociated form: but the ſigma in this caſe appears to be conſidered by the natives themſelves as redundant, for it has hitherto only been met with in their abecedary ſyſtem.

e, è.

The *firſt* is the *e* of *the ſyſtem*. It has two types; the *ſeventh* of the firſt ſeries, and *the laſt but one* of the ſecond, and which are often abbreviated in writing, as in the verbal termination *ze* and *rwe* in the Plate.* By a ſtrange irregularity, it is frequently written for *i*. The *ſecond* is diſtinguiſhed by the *grave* accent of the preceding ſeries.

aò, ao; o, ò.

Theſe vowels ſeem to be thus diſtinguiſhed in the *ſyſtem*: "By purſing up our lips in the leaſt degree, we convert the ſimple element into another ſound of the ſame nature with the *firſt* vowel, and eaſily confounded with it in a broad pronunciation: when this new ſound is lengthened; it approaches very nearly to the *fourth* vowel, which we form by a bolder and ſtronger rotundity of the mouth." The two firſt may be often miſtaken for the laſt; and, in ſome

4 words,

* Plate I. *b.*

words, even for *ā* and *à*, when inflecting the other letters with *wăch'we*, ſuſpended. Like *u*, *ù*, the ſymbol in aſſociation with *wăch'we*, when inflected with theſe four vowels, is redundant.

ăi̯l, *ăi̯p*; *aich*, *ai̯t*.

Our diphthong in *ay*, or *joy*, which ſeems to be compounded of the broad vowel in *all*, or rather its correſpondent ſhort one, followed by the third, pronounced with the acute piercing accent deſcribed in treating of the firſt vowel, conſtitutes the ſound of the two firſt of the preſent claſs of vowels; while the narrower ſound in *eye* or *my*, with the obtuſe abrupt termination mentioned under the third claſs of vowels, peculiarizes the two laſt. Taken in two's, as they appear above ſeparated by the *ſemicolon*, their ſounds are congenial. The two firſt form the exception taken notice of under the third claſs of vowels.

au̯t.

The diphthong of the *firſt* and *fifth* vowels, already ſo fully deſcribed in the ſyſtem, with the guttural termination of *ă̯t*, is the ſound of this vowel. It is ſometimes abbreviated, by an eliſion of the *final* letter, when a point above is ſubſtituted in its room.*

The *naſals* are now only left for diſcuſſion; their peculiar vowels, as well as moſt of their naſal terminations, are to be found either in the ſyſtem, or in the foregoing obſervations. The only thing therefore that remains, is arranging them into claſſes, and making a few trifling ſtrictures.

ān̈, *àn̈*.

No elucidation is here neceſſary. A ſpecies of abbreviation is ſometimes obſervable in writing, when the double letter is placed above, inſtead of preceding, the following letter; as in the word *sān̈bun*.†

id.

* See Plate I. *c*. † See Plate I. *d*.

iṅ.

The ſigma of this naſal in the original is not deduced analogouſly; its powers as a *ſyllabic initial* being that of the *dental* naſal, which ſound is altogether excluded from this language as a *final.*

um, uṅ.

The firſt of theſe is the regular ſymbol. Both ſounds have but one type in the original, that as a *labial* appearing to be reſtricted to thoſe inſtances where a labial follows; as *cumbuṗ*, a *ſmall eminence*, or riſing ground. The naſal is frequently repreſented by a point above the letter.

ăiṅ, ăìṅ, aim; aìṅ, aiṅ.

The vowels of thoſe naſals are in the ſame proportion as *ăiṫ, aiċh*, pronounced without the acute accent and abrupt termination by which they are reſpectively diſtinguiſhed. The *obſcure* naſal,† formed by a ſlight inflection of the tongue towards the palate, with a trifling aid from the other organ, and which is ſo frequently to be met with in *Perſian* and *Hindi* vocables, is the ſound of the two firſt; the purpoſe of the third being ſeemingly to take their place when a *labial* follows, as in the word *căimp'hā*, the *earth.*‡ It may be proper

† This naſal appears to hold a middle place between the *dental* and *guttural* naſals conſidered as *finals*; with the laſt of which it has but one common type in *the Syſtem.*

‡ See Plate I. *e*; where it may be obſerved, the double letter has the one which ſhould follow it ſubtended to it, and takes the vowel with which it is inflected, the diſtinguiſhing mark *ăsăt* being ſuppreſſed; an abbreviation very common in the vowels and naſal marks formed by double letters, particularly where the double letter is the ſame with that which immediately follows it.

proper to obſerve here, that, like the *Hindi*, there is a ſlight naſality perceivable in the pronunciation of ſome words for which there is no ſymbol.

The diphthongs of *aìṅ* and *aiṅ* are permuted with *è* and *e* when inflecting *ny*, *y*, and the whole claſs of *ăpāṅ*; as *nyèṅ*, *nyeṅ*, &c. and *aìṅ*, when inflecting thoſe letters with *wăch'hwe* ſuſpended, and the claſs *ăpāṅ-wăch'hwe*; as *nywèṅ*, &c. This laſt naſal, by an anomaly not to be accounted for, is very often written for *e*.

auṅ, *aùṅ*.

Theſe compounds, formed of the firſt and fifth vowels and *guttural* naſal, cloſe the three ſeries of vowels and naſal marks, and with them the abecedary rules of this language.

There is, however, one obſervation more requiſite, that could not have been introduced before without inconvenience, and which has therefore been reſerved for this place. *ă* conſidered in its *ſyllabic initial* capacity, in its inflections of *ărwi* and *ăsāiĺne* with *wăch'hwe* ſuſpended, is preceded by the fourth vowel, which, in this inſtance only, forms the ſymbol for *wăch'hwe*. The notation, therefore, for this deviation ſhould be as follows: *oá*, *oa*, *oà*, *oaĉ*, *oaṅ*, *oàṅ*; *o'ı*, *o'ı̀*; *o'e o'è*; *o'ăiĺ*, *o'ăiṕ*, *o'ăiń*, *oăìṅ*, *o'ăim*; *o'aicĥ*, *o'aiĉ*, *o'aìṅ*, *o'aiṅ*. There is a farther deviation obſervable in the *firſt ſix*, the primary vowel being changed in the preſent caſe into the ſimple element, with which the incipient letter coaleſces into a diphthong. In the reſt, the initial vowel is articulated ſeparately, as the comma between indicates. As for *u*, *ù*; *aò*, *ao*; *o*, *ò*; they retain the ſame ſound, as has been already obſerved, either with or without *wăch'hwe*.

The following extract, taken from a book entitled *Mănu Săiṅgwāṅ*, or the *Iron Ring of Mănu*, is offered merely as a specimen of the notation here laid down. It scarcely, from its insignificancy, deserves a translation: however, one is subjoined.

*Măhāsămădă māṅ gri chăĉ' crăwălā sāṅcḧyā praiṅ braiṅ tăiṅ daiṅ piť, tà tăiṅcḧà hnaiĉ chḧauṅ cḧye zaò tăchḧe shaich'pà zaò tḧăimmăsăiť chăgà do go crà lo si lo mu'gà năiṅ nāĉ cri gā hlyāṅ a'hri zo myāĉ'hnā mu'rwe tămuṅ chà hmă myāĉ'hnā cḧāiṅ'dwāṅ pà nà chḧe graò'rwe chāṅ gre jwā colăĉ co ſup̂ sāṅ'rwe săiṅ shāṅ jwā zaò co pḧrāṅ wăiť chà tăiṅ'chḧā chḧăṅ bri zaò ămyo le'bà păriť'săiť do hnăṅ che we cḧrăiṅ răiṅ lyăĉ lăĉ up̂ cḧyi hmă rădănā sumbà go hri'cḧo'rwe brăimmā chă zaò năiť sigrà do go hri'cḧo taiṅ dăiṅ u hmă hlyāṅ i tăchḧe shaich'pà tḧăimmăsăiť tărà chăgà go măhāsămădă māṅ gri à crà pe lo zaò hṅā.**

And Mănu said, "O, mighty Prince, Măhāsămădă! if thou hast an inclination to hear and understand the words of the eighteen holy books which I brought from the gate of *Chăĉ'răwălā*,† that enclose and form a barrier (to the earth) from thy palace; with thy face turned towards the east, cleaning thy teeth; washing thy eyes, mouth, cheeks, and ears, and wiping thy body and hands; and with a purified person, and having put on thy apparel and eat; and with the four friends ‡ assembled, and forming a circle, closing thy hands, and making obeisance to the three inestimable jewels, § and prostrating thyself

* For the original, see Plate II.

† Steep and stupendous mountains fabled to surround the earth, and beyond which no mortal can pass.

‡ Man; the two classes of supernatural beings, Nait and Sigra, supposed to possess the peculiar guardianship of mankind; and *Brăimmā* through an attribute, it would seem, of ubiquity.

§ *Phurā, Tărā Sāṅc'hā.* The incarnate Deities, Divine Justice, and the Priests.

ſelf before *Brăimmā*, (and the two claſſes of beneficent Genii) *Năil* and *Sigrà*, and making known to them thy grievances (having performed all theſe acts, then) will I preſent unto thee, illuſtrious monarch, *Măhāsămădă*, and cauſe thee to hear the words of theſe eighteen books of Divine ordinances."

It is difficult to refrain obſerving, that the arrangement not only of the alphabet, but of the firſt ſeries of vowels (eight of which have diſtinct characters † which are not inflected) of the foregoing ſyſtem, has a ſtriking ſimilitude to the *Devanagárì*. In the alphabet, for inſtance, wherever it is defective, ſuch deficiency is ſupplied by double, and, in one caſe, quadruple, ſymbols for the ſame ſound; the firſt part being arranged into claſſes of four, each terminated by a naſal, forming together the number twenty-five; which exactly correſponds with the *Devanagárì*.

From information, there appears to be ſcarcely room to doubt, but that the *Siameſe* have one common language and religion with the *Brăimmās* and *Mărămăs*; and that in manners and cuſtoms the three nations form, as it were, one great family. How far theſe obſervations may extend to the inhabitants of *Aſam*, we ſhall be able to judge on the publication of the hiſtory of that country.

It may be ſufficient to obſerve in this place, that there is one ſad impediment to attaining a critical knowledge of the idiom of the language of *Ava* and *Aracan*, without which we may in vain expect from any pen accurate information reſpecting the religion, laws, manners, and cuſtoms, of theſe kingdoms; and that is, that there is no regular ſtandard of orthography, or the ſmalleſt trace of grammatical enquiry to be found among the natives.

† See Plate I. Figure 6.

tives.† Much, however, may be done by patience and attention. The field is ample; and he who has leiſure and perſeverance to attain a juſt knowledge of its boundaries, will probably find his labours rewarded beyond his moſt ſanguine expectation.

† Every writing that has hitherto come under obſervation, has been full of the groſſeſt inaccuracies; even thoſe ſtamped by the higheſt authority; ſuch as official papers from the king of *Ava* to our government. How far the *Pălit*, or ſacred language, in which their religious ordinances are written, may be exempted from this remark, it is impoſſible to ſay. The *Prieſts* are almoſt the only people converſant in it, and few even among them are celebrated for the accuracy and extent of their knowledge. Between *Rámu* and *Iſlámabàd*, only *one* perſon has been heard of, and to him acceſs has not hitherto been obtainable. Enquiry ſeems to favour an opinion, that an acquaintance with both languages is abſolutely neceſſary to effect the important purpoſes that at preſent introduce themſelves to our notice, and which are to prove the inhabitants of *Siam*, *Ava*, and *Aracan*, to be one and the ſame people in language, manners, laws, and religion; and features of the ſtrongeſt reſemblance between them and thoſe of *Aſam*, *Nepal*, and *Tibet*; and eventually to add another link to the chain of general knowledge, by furniſhing materials for filling up the interval that ſeems at preſent to ſeparate the *Hindus* from the *Chineſe*.

XIII.

SOME ACCOUNT OF THE

ELASTIC GUM VINE OF PRINCE OF WALES'S ISLAND,

AND OF

Experiments made on the milky Juice which it produces: with Hints reſpecting the uſeful Purpoſes to which it may be applied.

By JAMES HOWISON, Eſq.

Communicated by JOHN FLEMING, Eſq.

OUR firſt knowledge of the plant being a native of our *Iſland* aroſe from the following accident. In our excurſions into the foreſts, it was found neceſſary to carry cutlaſſes for the purpoſe of clearing our way through the underwood. In one of thoſe an elaſtic gum vine had been divided, the milk of which drying upon the blade, we were much ſurprized in finding it poſſeſs all the properties of the *American Caout-chouc*. The vine which produces this milk is generally about the thickneſs of the arm, and almoſt round, with a ſtrong aſh-coloured bark, much cracked, and divided longitudinally; has joints at a ſmall diſtance from each other, which often ſend out roots, but ſeldom branches; runs upon the ground to a great length; at laſt riſes upon the higheſt trees into the open air. It is found in the greateſt plenty at the foot of the mountains, upon a red clay mixed with ſand, in ſituations completely ſhaded, and where the mercury in the thermometer will ſeldom exceed ſummer heat.

In my numerous attempts to trace this vine to its top, I never ſucceeded; for, after following it in its different windings, ſometimes to a diſtance of two

hundred paces, I loſt it, from its aſcending among the branches of trees that were inacceſſible either from their ſize or height. On the weſt coaſt of *Sumatra* I underſtand they have been more ſucceſsful; *Doctor Roxburgh* having procured from thence a ſpecimen of the vine in flowers, from which he has claſſed it; but whoſe deſcription I have not yet ſeen.

With us the *Malays* have found taſting of the milk the beſt mode of diſcriminating between the elaſtic gum vine and thoſe which reſemble it in giving out a milky juice, of which we have a great variety; the liquid from the former being much leſs pungent or corroſive than that obtained from the latter.

The uſual method of drawing off the milk is by wounding the bark deeply in different places, from which it runs but ſlowly, it being full employment for one perſon to collect a quart in the courſe of two days. A much more expeditious mode, but ruinous to the vine, is cutting it in lengths of two feet, and placing under both ends veſſels to receive the milk. The beſt is always procured from the oldeſt vines. From them it is often obtained in a conſiſtence equal to thick cream, and which will yield two thirds of its own weight in gum.

The chemical properties of this vegetable milk, ſo far as I have had an opportunity of examining, ſurprizingly reſemble thoſe of animal milk. From its decompoſition in conſequence of ſpontaneous fermentation, or by the addition of acids, a ſeparation takes place between its *caſeous* and ſerous parts, both of which are very ſimilar to thoſe produced by the ſame proceſſes from animal milk. An oily or butyrous matter is alſo one of its component parts, which appears

pears upon the ſurface of the gum ſo ſoon as the latter has attained its ſolid form. The preſence of this conſiderably impeded the progreſs of my experiments, as will be ſeen hereafter.

I was at ſome trouble in endeavouring to form an extract of this milk ſo as to approach to the conſiſtence of new butter, by which I hoped to retard its fermentative ſtage, without depriving it of its uſeful qualities; but as I had no apparatus for diſtilling, the ſurface of the milk, that was expoſed to the air, inſtantly formed into a ſolid coat, by which the evaporation was in a great degree prevented. I, however, learned, by collecting the thickened milk from the inſide of the coats, and depoſiting it in a jelly pot, that, if excluded from the air, it might be preſerved in this ſtate for a conſiderable length of time.

I have kept it in bottles, without any preparation, tolerably good, upwards of one year; for, notwithſtanding the fermentation ſoon takes place, the decompoſition in conſequence is only partial; and what remains fluid, ſtill retains its original properties, although conſiderably diminiſhed.

Not having ſeen *M. Fourcroy's* memoir on *Caout-chouc*, I could not make trials of the methods propoſed by him for preſerving the milk unaltered.

In making boots, gloves, and bottles, of the elaſtic gum, I found the following method the beſt: I firſt made moulds of wax, as nearly of the ſize and ſhape of what they repreſented as poſſible; theſe I hung ſeparately upon pins, about a foot from the ground, by pieces of cord wrought into the wax: I then placed under each a ſoup plate, into which I poured as much of the milk as I thought would be ſufficient for one coat. Having dipped my fingers in this, I completely

completely covered the moulds one after another, and what dropped into the plates was uſed as part of the next coat: the firſt I generally found ſufficiently dry in the ſpace of ten minutes, when expoſed to the ſun, to admit of a ſecond being applied: however, after every ſecond coat, the oily matter before mentioned was in ſuch quantity upon the ſurface, that, until waſhed off with ſoap and water, I found it impoſſible to apply any more milk with effect; for, if laid on, it kept running and dividing like water upon wax.

Thirty coats I in common found ſufficient to give a covering of the thickneſs of the bottles which come from *America*. This circumſtance may, however, at any time be aſcertained, by introducing the finger between the mould and gum, the one very readily ſeparating from the other.

I found the fingers preferable to a bruſh, or any inſtrument whatever, for laying on the milk; for the moment a bruſh was wet with that fluid, the hair became united as one maſs. A mode which at firſt view would appear to have the advantage of all others for eaſe and expedition in covering clay and wax moulds with the gum, viz. immerſing them in the milk, did not at all anſwer upon trial; that fluid running almoſt entirely off, although none of the oily matter was preſent; a certain degree of force ſeeming neceſſary to incorporate by friction the milk with the new formed gum.

When, upon examination, I found that the boots and gloves were of the thickneſs wanted, I turned them over at the top, and drew them off, as if from the leg or hand, by which I ſaved the trouble of forming new moulds. Thoſe of the bottles being ſmalleſt at the neck, I was under the neceſſity of diſſolving in hot water.

The

The inſide of the boots and gloves which had been in contact with the wax being by far the ſmootheſt, I made the outſide. The gloves were now finiſhed, unleſs cutting their tops even, which was beſt done with ſciſſars. The boots, however, in their preſent ſtate, more reſembled ſtockings, having as yet no ſoles. To ſupply them with theſe, I poured upon a piece of gunny a proper quantity of milk, to give it a thick coat of gum. From this, when dry, I cut pieces ſufficiently large to cover the ſole of the foot, which, having met with the milk, I applied; firſt replacing the boot upon the mould to keep it properly extended. By this mode the ſoles were ſo firmly joined, that no force could afterwards ſeparate them. In the ſame manner I added heels and ſtraps, when the boots had a very neat appearance. To ſatisfy myſelf as to their impermeability to water, I ſtood in a pond up to their tops for the ſpace of fifteen minutes, when, upon pulling them off, I did not find my ſtockings in the leaſt damp. Indeed, from the nature of the gum, had it been for a period of as many months, the ſame reſult was to have been expected.

After being thus far ſucceſsful, I was greatly diſappointed in my expectations with regard to their retaining their original ſhape; for, on wearing them but a few times, they loſt much of their firſt neatneſs, the contractions of the gum being only equal to about ſeven eighths of its extenſion.

A ſecond diſadvantage aroſe from a circumſtance difficult to guard againſt, which was, that if, by any accident, the gum ſhould be in the ſmalleſt degree weaker in one place than another, the effect of extenſion fell almoſt entirely on that part, and the conſequence was, that it ſoon gave way.

From what I had obſerved of the advantage gained in ſubſtance and uniformity of ſtrength, by making uſe of gunny as a baſis for the ſoles, I was led to

 ſuppoſe,

ſuppoſe, that if an elaſtic cloth, in ſome degree correſpondent to the elaſticity of the gum, were uſed for boots, ſtockings, gloves, and other articles, where that property was neceſſary, that the defects above mentioned might in a great meaſure be remedied. I accordingly made my firſt experiment with *Coſſimbazar* ſtockings and gloves.

Having drawn them upon the wax moulds, I plunged them into veſſels containing the milk, which the cloth greedily abſorbed. When taken out, they were ſo completely diſtended with the gum in ſolution, that, upon becoming dry by expoſure to the air, not only every thread, but every fibre of the cotton had its own diſtinct envelope, and in conſequence was equally capable of reſiſting the action of foreign bodies as if of ſolid gum.

The firſt coat by this method was of ſuch thickneſs, that for ſtockings or gloves nothing farther was neceſſary. What were intended for boots required a few more applications of milk with the fingers, and were finiſhed as thoſe made with the gum only.

This mode of giving cloth as a baſis I found to be a very great improvement: for, beſides the addition of ſtrength received by the gum, the operation was much ſhortened.

Woven ſubſtances, that are to be covered with the gum, as alſo the moulds on which they are to be placed, ought to be conſiderably larger than the bodies they are afterwards intended to fit; for, being much contracted from the abſorption of the milk, little alteration takes place in this diminution in ſize, even when dry, as about one third only of the fluid evaporates before the gum acquires its ſolid form.

Great

Great attention muſt be paid to prevent one part of the gum coming in contact with another while wet with the milk or its whey; for the inſtant that takes place, they become inſeparably united. But ſhould we ever ſucceed in having large plantations of our own vine, or in transferring the *American* tree (which is perhaps more productive) to our poſſeſſions, ſo that milk could be procured in ſufficient quantity for the covering various cloths, which ſhould be done on the ſpot, and afterwards exported to *Europe*, then the advantages attending this ſingular property of the milk would for ever balance its diſadvantages: cloths, and coverings of different deſcriptions, might then be made from this gum cloth, with an expedition ſo much greater than by the needle, that would at firſt appear very ſurprizing: the edges of the ſeparate pieces only requiring to be wet with the milk, or its whey, and brought into contact, when the article would be finiſhed, and fit for uſe. Should both milk and whey be wanting, a ſolution of the gum in either can always be obtained, by which the ſame end would be accompliſhed.

Of all the cloths upon which I made experiments, nankeen, from the ſtrength and quality of its fabric, appeared the beſt calculated for coating with the gum. The method I followed in performing this, was, to lay the cloth ſmooth upon a table, pour the milk upon it, and with a ruler to ſpread it equally. But ſhould this ever be attempted on a larger ſcale, I would recommend the following plan: To have a ciſtern for holding the milk a little broader than the cloth, to be covered with a croſs bar in the centre, which muſt reach under the ſurface of the milk, and two rollers at one end. Having filled the ciſtern, one end of the piece of cloth is to be paſſed under the bar, and through between the rollers; the former keeping the cloth immerſed in the milk, the latter in preſſing out what is ſuperfluous, ſo that none may be loſt. The cloth can be hung up at full length to dry; and the

operation repeated until of whatever thickneſs wanted. For the reaſons above-mentioned, care muſt be taken that one fold does not come in contact with another while wet.

Having obſerved that moſt of the patent catheters and bougies made with a ſolution of the elaſtic gum, whether in ether or in the eſſential oils, had either a diſagreeable ſtickineſs, or were too hard to admit of any advantage being derived from the elaſticity of the gum, I was induced to make ſome experiments with the milk towards removing theſe objections.

From that fluid, by evaporation, I made ſeveral large ſized bougies of pure gum, which, from their over-flexibility, were totally uſeleſs. I then took ſome ſlips of fine cloth covered with the gum, which I rolled up until of a proper ſize, and which I rendered ſolid by ſoaking them in the milk, and then drying them. Theſe poſſeſſed more firmneſs than the former, but in no degree ſufficient for the purpoſe intended. Pieces of ſtrong catgut, coated with the gum, I found to anſwer better than either.

Beſides an effectual cloathing for manufacturers employed with the mineral acids, which had been long a deſideratum, this ſubſtance, under different modifications, might be applied to a number of other uſeful purpoſes in life; ſuch as making hats, great coats, boots, &c. for ſailors, ſoldiers, fiſhermen, and every other deſcription of perſons who, from their purſuits, are expoſed to wet ſtockings; for invalids, who ſuffer from damps; bathing caps, tents, coverings for carriages of all kinds, for roofs of houſes, trunks, buoys, &c.

This extraordinary vegetable production, in place of being injured by water, at its uſual temperature* is preſerved by it. For a knowledge of this circumſtance I am indebted to the *Chineſe*. Having ſome years ago commiſſioned articles made of the elaſtic gum from *China*, I received them in a ſmall jar filled up with water, in which ſtate I have ſince kept them without obſerving any ſigns of decay.

Should it ever be deemed an object to attempt plantations of the elaſtic gum vine in *Bengal*, I would recommend the foot of the *Chittagong*, *Rajmahal* and *Bauglipore* hills, as ſituations where there is every probability of ſucceeding, being very ſimilar in ſoil and climate to the places of its growth on *Prince of Wales's Iſland*. It would, however, be adviſable to make the firſt trial at this ſettlement, to learn in what way the propagation of the plant might be moſt ſucceſsfully conducted. A further experience may alſo be neceſſary, to aſcertain the ſeaſon when the milk can be procured of the beſt quality, and in the greateſt quantity, with the leaſt detriment to the vine.

* From an account of experiments made with the elaſtic GUM by M. GROSSART, inſerted in the *Annals de Chimie* for 1792, it appears, that water, when boiling, has a power of partially diſſolving the gum ſo as to render one part capable of being finally joined to another by preſſure only.

Urcolea Elastica

XIV.

A BOTANICAL DESCRIPTION OF

URCEOLA ELASTICA, OR CAOUT-CHOUC VINE OF SUMATRA AND PULLO-PINANG;

WITH AN

Account of the Properties of its inſpiſſated Juice, compared with thoſe of the

AMERICAN CAOUT-CHOUC.

By WILLIAM ROXBURGH, M. D.

FOR the diſcovery of this uſeful vine, we are, I believe, indebted to Mr. HOWISON, late *Surgeon* at *Pullo-pinang*; but it would appear he had no opportunity of determining its botanical character. To *Doctor* CHARLES CAMPBELL, of *Fort Marlborough*, we owe the gratification ariſing from a knowledge thereof.

About twelve months ago I received from that gentleman, by means of Mr. FLEMING, very complete ſpecimens, in full foliage, flower, and fruit. From theſe I was enabled to reduce it to its claſs and order in the *Linnæan* Syſtem. It forms a new genus in the claſs *Pentandria*, and order *Monogynia*, and comes in immediately after *Tabernæmontana*, conſequently belongs to the thirtieth natural order, or claſs called *Contortæ* by LINNÆUS in his natural method of claſſification or arrangement. One of the qualities of the plants of this order is, their yielding, on being cut, a juice which is generally milky, and for the moſt part deemed of a poiſonous nature.

The

The generic name, *Urceola*, which I have given to this plant, is from the ſtructure of the corol, and the ſpecific name from the quality of its thickened juice.

So far as I can find, it does not appear that ever this vine has been taken notice of by any *European* till now. I have carefully looked over the *Hortus Malabaricus*, RUMPHIUS's *Herbarium Amboinenſe*, &c. &c. Figures of *Indian* Plants, without being able to find any one that can with any degree of certainty be referred to. A ſubſtance of the ſame nature, and probably the very ſame, was diſcovered in the Iſland of *Mauritius*, by M. POIVRE, and from thence ſent to *France*; but, ſo far as I know, we are ſtill ignorant of the plant that yields it.

The impropriety of giving to *Caout-chouc* the term gum, reſin, or gum-reſin, every one ſeems ſenſible of, as it poſſeſſes qualities totally different from all ſuch ſubſtances as are uſually arranged under thoſe generic names: yet it ſtill continues, by moſt authors I have met with, to be denominated elaſtic reſin, or elaſtic gum. Some term it ſimply *Caout-chouc*, which I wiſh may be conſidered as the generic name of all ſuch concrete vegetable juices (mentioned in this memoir) as poſſeſs elaſticity, inflammability, and are ſoluble in the eſſential oils, without the aſſiſtance of heat.

In a mere definition, it would be improper to ſtate what qualities the object does not poſſeſs; conſequently it muſt be underſtood that this ſubſtance is not ſoluble in the menſtruums which uſually diſſolve reſins and gums.

Eaſt India Caout-chouc would be a very proper ſpecific name for that of *Urceola elaſtica*, were there not other trees which yield juices ſo ſimilar, as to come under the ſame generic character; but as this is really the caſe, I will apply the name of the tree which yields it for a ſpecific one. E. G. *Caout-chouc* of *Urceola elaſtica*, *Caout-chouc* of *Ficus Indica*, *Caout-chouc* of *Artocarpus integrifolia*, &c. &c.

DESCRIPTION OF THE PLANT URCEOLA.

PENTANDRIA MONOGYNIA.

GEN. CHAR. calyx beneath five-toothed; corol one petaled, pitcher ſhaped, with its contracted mouth five-toothed: nectary entire, ſurrounding the germs; follicles two, round, drupacious; ſeeds numerous, immerſed in pulp.

URCEOLA ELASTICA.

Shrubby, twining, leaves oppoſite, oblong, panicles terminal, is a native of *Sumatra, Pullo-pinang*, &c. *Malay* countries.

Stem, woody, climbing over trees, &c. to a very great extent, young ſhoots twining, and a little hairy, bark of the old woody parts thick, dark coloured, conſiderably uneven, a little ſcabrous, on which I found ſeveral ſpecies of moſs, particularly large patches of *lichen*; the wood is white, light, and porous.

Leaves, oppoſite, ſhort-petioled, horizontal, ovate, oblong, pointed, entire, a little ſcabrous, with a few ſcattered white hairs on the under ſide.

Stipules, none.

Panicles, terminal, brachiate, very ramus.

Flowers, numerous, minute, of a dull, greeniſh colour, and hairy on the outſide.

Bracts, lanceolate, one at each diviſion and ſubdiviſion of the panicle.

Calyx, perianth, one-leaved, five-toothed, permanent.

Corol, one petaled, pitcher ſhaped, hairy, mouth much contracted, five-toothed, diviſions erect, acute, nectary entire, cylindrick, embracing the lower two-thirds of the germs.

Stamens, filaments five, very ſhort, from the baſe of the corol. Anthers

arrow ſhaped, converging, bearing their pollen in two grooves on the inſide, near the apex; between theſe grooves and the inſertions of the filaments they are covered with white ſoft hairs.

Piſtil, germs two; above the nectary they are very hairy round the margins of their truncated tops. Style ſingle, ſhorter than the ſtamens. Stigma ovate, with a circular band, dividing it into two portions of different colours.

Per. Follicles two, round, laterally compreſſed into the ſhape of a turnip, wrinkled, leathery, about three inches in their greateſt diameters—one celled, two valved.

Seeds, very numerous, reniform, immerſed in firm fleſhy pulp.

EXPLANATION OF THE FIGURES.

1. A branchlet in flower, natural ſize.
2. A flower magnified.
3. The ſame laid open, which expoſes to view the ſituation of the ſtamens inſerted into the bottom of the corol, the nectarium ſurrounding the lower half of the two germs, their upper half with hairy margins, the ſtyle and ovate party-coloured; ſtigma appearing above the nectary.
4. Outſide of one of the ſtamens
5. Inſide of the ſame } much magnified.
6. The nectarium laid open, expoſing to view the whole of the piſtil.
7. The two ſeed veſſels (called by Linnæus *follicles)*, natural ſize; half of one of them is removed, to ſhew the ſeed immerſed in pulp. A portion thereof is alſo cut away, which more clearly ſhews the ſituation and ſhape of the ſeed.

From wounds made in the bark of this plant there oozes a milky fluid, which on expoſure to the open air, ſeparates into an elaſtic coagulum, and watery liquid,

liquid, apparently of no uſe, after the ſeparation takes place. This coagulum is not only like the American *caout-chouc* or Indian rubber, but poſſeſſes the ſame properties, as will be ſeen from the following experiments and obſervations made on ſome which had been extracted from the vine about five months ago. A ball of it now before me, is to my ſenſe, totally void of ſmell, even when cut into, is very firm, nearly ſpherical, meaſures nine and a half inches in circumference, and weighs ſeven ounces and a quarter, its colour on the outſide is that of American *caout-chouc*, where freſh cut into of a light brown colour till the action of the air darkens it; throughout there are numerous ſmall cells, filled with a portion of light brown watery liquid above mentioned. This ball, in ſimply falling from a height of fifteen feet, rebounds about ten or twelve times, the firſt is from five to ſeven feet high, the ſucceeding ones of courſe leſſening by gradation.

This ſubſtance is not now ſoluble in the above mentioned liquid contained in its cells, although ſo intimately blended therewith when firſt drawn from the plant, as to render it ſo thin, as to be readily applied to the various purpoſes to which it is ſo well adapted when in a fluid ſtate.

From what has been ſaid, it will be evident, that this *caout-chouc* poſſeſſes a conſiderable ſhare of ſolidity and elaſticity in an eminent degree. I compared the laſt quality, with that of American *caout-chouc* by taking ſmall ſlips of each, and extending them till they broke; that of Urceola, was found capable of bearing a much greater degree of extenſion, (and contraction) than the American: however, this may be owing to the time the reſpective ſubſtances have been drawn from their plants.

The Urceola *caout-chouc*, rubs out the marks of a black lead pencil, as readily as the American, and is evidently the ſubſtance of which the Chineſe make their elaſtic rings.

It contains much combuſtible matter, burning entirely away, with a clear flame, emitting a conſiderable deal of dark-coloured ſmoke which readily condenſes into a large proportion of exceeding fine ſoot, or lamp-black; at the ſame time it gives but little ſmell, and that not diſagreeable; the combuſtion is often ſo rapid, as to cauſe drops of a black liquid, very like tar, to fall from the burning maſs; this is equally inflammable with the reſt, and continues when cold in its ſemi-fluid ſtate, but totally void of elaſticity; in *America* the *caout-chouc* is uſed for torches, ours appears to be equally fit for that purpoſe. Expoſed in a ſilver ſpoon to a heat, about equal to that which melts lead or tin, it is reduced into a thick, black, inflammable liquid, ſuch as drops from it during combuſtion, and is equally deprived of its elaſtic powers, conſequently rendered unfit for thoſe purpoſes, for which its original elaſticity rendered it ſo proper.

It is inſoluble in ſpirits of wine, nor has water any more effect on it, except when aſſiſted by heat, and then it is only ſoftened by it.

Sulphuric acid reduced it into a black, brittle, charcoal like ſubſtance, beginning at the ſurface of the *caout-chouc*, and if the pieces are not very thin, or ſmall, it requires ſome days to penetrate to their centre; during the proceſs, the acid is rendered very dark coloured, almoſt black. If the ſulphuric acid is previouſly diluted, with only an equal quantity of water, it does not then appear to have any effect on this ſubſtance, nor is the colour of the liquid changed thereby.

Nitric

Nitric acid reduced it in twelve hours to a ſoft, yellow, unelaſtic maſs, while the acid is rendered yellow; at the end of two days, the *caout-chouc* had acquired ſome degree of friability and hardneſs. The ſame experiment made on American *caout-chouc* was attended with ſimilar effects. Muriatic acid had no effect on it.

Sulphuric æther only ſoftened it, and rendered the different minute portions it was cut into eaſily united, and without any ſeeming diminution of elaſticity.

Nitric æther I did not find a better menſtruum than the vitriolic, conſequently, if the æther I employed was pure, of which I have ſome doubt, this ſubſtance muſt differ eſſentially from that of *America*, which BERNIARD reports to be ſoluble in nitric æther.

Where this ſubſtance can be had in a fluid ſtate, there is no neceſſity for diſſolving or ſoftening it, to render it applicable to the various uſes for which it may be required; but where the dry *caout-chouc* is only procurable, ſulphuric æther promiſes to be an uſeful medium, by which it may be rendered ſo ſoft as to be readily formed into a variety of ſhapes.

Like American *caout-chouc*, it is ſoluble in the eſſential oil of turpentine, and I find it equally ſo in Cajeput oil, an eſſential oil, ſaid to be obtained from the leaves of *Melaleuca Leucadendron*. Both ſolutions appear perfect, thick, and very glutinous. Spirits of wine, added to the ſolution in Cajeput oil, ſoon united with the oil, and left the *caout-chouc* floating on the mixture in a ſoft ſemi-fluid ſtate, which, on being waſhed in the ſame liquor, and expoſed to the air, became as firm as before it was diſſolved, and retained its elaſtic powers perfectly, while in the intermediate ſtates between ſemi-fluid and

and firm, it could be drawn out into long, tranſparent threads, reſembling, in the poliſh of their ſurface, the fibres of the tendons of animals; when they broke, the elaſticity was ſo great, that each end inſtantaneouſly returned to its reſpective maſs. Through all theſe ſtages the leaſt preſſure with the finger and thumb united different portions, as perfectly as if they never had been ſeparated, and without any clammineſs, or ſticking to the fingers, which renders moſt of the ſolutions of *caout-chout*, ſo very unfit for the purpoſes for which they are required. A piece of catgut covered with the half inſpiſſated ſolution, and rolled between two ſmooth ſurfaces, ſoon acquired a poliſh, and conſiſtence very proper for bougies. Cajeput oil, I alſo found a good menſtruum for American *caout-chouc*, and was as readily ſeparated by the addition of a little ſpirit of wine, or rum, as the other, and appears equally fit for uſe, as I covered a piece of catgut with the waſhed ſolution as perfectly as with that of *Urceola*. The only difference I could obſerve, was a little more adheſiveneſs from its not drying ſo quickly; the oil of turpentine had greater attraction for the *caout-chouc*, than for the ſpirits of wine, conſequently remained obſtinately united to the former, which prevented its being brought into that ſtate of firmneſs fit for handling, which it acquired when Cajeput oil was the menſtruum.

The Cajeput ſolution employed as a varniſh did not dry, but remained moiſt and clammy, whereas the turpentine ſolution dried pretty faſt.

Expreſſed oil of olives and linſeed proved imperfect menſtruums while cold, as the *caout-chouc*, in ſeveral days, was only rendered ſoft, and the oils viſcid, but with a degree of heat equal to that which melts tin, continued for about twenty-five minutes, it was perfectly diſſolved, but the ſolution remained thin and void of elaſticity. I alſo found it ſoluble in wax, and in butter

butter in the ſame degree of heat, but ſtill theſe ſolutions were without elaſticity, or any appearance of being uſeful.

I ſhall now conclude what I have to offer on the *caout-chouc*, or *Urceola elaſtica*, with obſerving that ſome philoſophers of eminence have entertained doubts of the American *caout-chouc* being a ſimple vegetable ſubſtance, and ſuſpect it to be an artificial production, an idea which I hope the above detailed experiments will help to eradicate, and conſequently to reſtore the hiſtories of that ſubſtance by M. *De la Condamine* and others, to that degree of credit to which they ſeem juſtly entitled, in ſupport of which it may be further obſerved, that beſides *Urceola elaſtica* there are many other trees, natives of the Torrid Zone, that yield a milky juice, poſſeſſing qualities nearly of the ſame nature, as *artocarpus integrifolia* (common jack tree) *ficus religioſus et Indica, Hippomane biglandulosa, Cecropia peltata, &c.*

The *caout-chouc* or *ficus religioſa*, the Hindus conſider the moſt tenacious vegetable juice they are acquainted with; from it their beſt bird lime is prepared. I have examined its qualities as well as thoſe of *ficus Indica* and *artocarpus integrifolia*, by experiments, ſimilar to thoſe above related, and found them triflingly elaſtic when compared with the American and Urceola *caout-choucs*, but infinitely more viſcid than either; they are alſo inflammable, though in a leſs degree, and ſhew nearly the ſame phenomena when immerſed in the mineral acids, ſolution of cauſtic alkali, alkohol, fat, and eſſential oils; but the ſolution in Cajeput oil could not be ſeparated by ſpirits of wine and collected again like the ſolutions of the Urceola and American *caout-choucs*.

XV SOME

XV.

SOME ACCOUNT OF THE ASTRONOMICAL LABOURS OF JAYASINHA, RAJAH OF AMBHERE, OR JAYANAGAR

By WILLIAM HUNTER, Eſquire.

WHILE the attention of the learned world has been turned towards the ſtate of ſcience in remote ages and countries, and the labours of the *Aſiatick* Society have been more particularly directed to inveſtigate the knowledge attained by the ancient inhabitants of Hinduſtan; it is a tribute due to a congenial ſpirit, to reſcue from oblivion thoſe among their deſcendants in modern times, who, riſing ſuperior to the prejudices of education, of national pride and religion, have ſtriven to enrich their country with ſcientific truth derived from a foreign ſource.

The name of JAYASINHA is not unknown in *Europe*; it has been conſigned to immortality by the pen of the illuſtrious Sir WILLIAM JONES: but yet, the extent of his exertions in the cauſe of ſcience is little known; and the juſt claims of ſuperior genius and zeal will, I hope, juſtify my taking up a part of the Society's time with a more particular enumeration of his labours.

JEY-SING or JAYASINHA ſucceeded to the inheritance of the ancient Rajahs of Ambhere, in the year *Vicramadittya* 1750, correſponding to 1693 of the *Chriſtian* æra. His mind had been early ſtored with the knowledge contained in the Hindu writings, but he appears to have peculiarly attached himſelf to the

mathematical ſciences, and his reputation for ſkill in them ſtood ſo high, that he was choſen by the Emperor MAHOMMED SHAH to reform the calendar, which, from the inaccuracy of the exiſting tables, had ceaſed to correſpond with the actual appearance of the heavens. JAYASINHA undertook the taſk, and conſtructed a new ſet of tables, which in honour of the reigning prince he named *Zeej Mahommedſhahy*. By theſe almanacks are conſtructed at *Dehly*, and all aſtronomical computations made at the preſent time. The beſt and moſt authentic account of his labours for the completion of this work and the advancement of aſtronomical knowledge is contained in his own preface to the *Zeej Mahommedſhahy*, which follows with a literal tranſlation.

بسم الله الرحمن الرحيم

ثناهي كه خرد خورده بين هند سان عقده كشا در اداي دقيقه از ان زبان اعتراف بعجز و قصور كشايد و ستايشي كه فكر اصابت قرين را صدان فلك پيماي يا و لين درجهٔ آن شرح و بيان اقرار به تحير و نار سا بي نهايد نثاربارگاه شبهثا هي كه طباق سموات بكند و رقيست چند از دفتر ديوان قدرت او تقدس

'*Praiſe* be to God, ſuch that the 'minutely diſcerning genius of the 'profoundeſt geometers in uttering 'the ſmalleſt particle of it, may open 'the mouth in confeſſion of inabi-'lity; and ſuch adoration, that the 'ſtudy and accuracy of aſtronomers 'who meaſure the heavens, on the 'firſt ſtep towards expreſſing it, may 'acknowledge their aſtoniſhment and 'utter inſufficiency. Let us devote 'ourſelves at the altar of the King of 'Kings, hallowed be his name! in 'the book of the regiſter of whoſe

'power

اسماء وانجم و خورشید آسمان
پیو ند دینار و درهمي است
معرود از ینه خازن سلطنت او
تعالت الاء اکر صفحجات زتج
اقالیم زمین را جبدا ول انهارو
رقوم نجوم و اشجار مجلي و
مزین نمیساخت هیچ مستخرجي
اسجراج

'power the lofty orbs of heaven are
'only a few leaves; and the ſtars and
'that heavenly courſer the ſun, a ſmall
'piece of money in the treaſury of
'the empire of the Moſt High.

تقویم انواع حیب و ثمار نتوا
نتي نمود واکر راه ظهمت اباد
عناصر رانهشاعل ثوابت وسیا
رتابدار و مهتاب وآفتاب نوربار
ظا هر نهیکر درسیدن بسر
منزل مقصود و نجات از نار سا
مي غور محیط قدر نش ابر
خس خس است بر هم زن دست
افسوس و در اند یشه ار تفاع
قدرش بطلمیوس خفاشي از
رسیدن با قلب حقیقت مایوس

'If he had not adorned the pages
'of the table of the climates of the
'earth with the lines of rivers, and
'the characters of graſſes and trees,
'no calculator could have conſtructed
'the almanack of the various kinds
'of ſeeds and of fruits which it con-
'tains. And if he had not enlighten-
'ed the dark path of the elements
'with the torches of the fixed ſtars,
'the planets, and the reſplendent ſun
'and moon, how could it have been
'poſſible to arrive at the end of our
'wiſhes, or to eſcape from the laby-

براهين اقليدس در بيان اشكال
صنايع او حرفي ناتمام و حزاران
جمشيد كاشي چون نصير طوسي
در پختن سوراي خام امابعد خير

'rinth, and the precipices of igno-
'rance.

'From inability to comprehend
'the all-encompaſſing beneficence of
'his power, HIPPARCHUS is an igno-
'rant clown, who wrings the hands of
'vexation; and in the contemplation
'of his exalted majeſty, PTOLEMY is
'a bat, who can never arrive at the
'ſun of truth: The *demonſtrations*
'of EUCLID are an imperfect ſketch
'of the forms of his contrivance; and
'thouſands of JEMSHED CASHY, or
'NUSEER TOOSEE, in this attempt
'would labour in vain.

خواه اصناف آفرينش و تماشاي
كارگاه دانش و بينش سواي
چينك از بدو فطرت و عنفوان
سعور بفن رياضي مشعوف و ما
لوف بود و همواره عنان طبعش
بكشف دقايق و حل غوامض آن
مصروف بتأه يد كر دكار از
اصول و قوانين آن خطي وافر و

'But ſince the well-wiſher of the
'works of creation, and the admiring
'ſpectator of the theatre of infinite
'wiſdom and providence, *Servai-Jey-*
'*ſing* from the firſt dawning of reaſon
'in his mind, and during its progreſs
'towards maturity, was entirely de-
'voted to the ſtudy of mathematical
'ſcience, and the bent of his mind was
'conſtantly directed to the ſolution

'of

'of its moſt difficult problems; by 'the aid of the ſupreme artificer he 'obtained a thorough knowledge of 'its principles and rules.—He found 'that the calculation of the places of 'the ſtars as obtained from the tables 'in common uſe, ſuch as the new 'tables of SEID GOORGANEE and 'KHACANEE, and the *Tuſ,heelat-'Mula-Chand-Akber-ſhahee*, and the 'Hindu books, and the European ta-'bles, in very many caſes, give them 'widely different from thoſe deter-'mined by obſervation: eſpecially 'the appearance of the new moons, 'the computation of which does not 'agree with obſervation.

نصیبي کامل حاصل کرد چنان
یافت که استخراج تقادیم کواکب
که از زیجهاي متعارف مثل زیج
جدید سعید کور کاني و خاقاني
و تسهیلات ملاچاند اکبر شاهي
و کتبهاي هندي و زیج فرنکي
میشود اکثر و اغلب اوقات دور از
مرصود و عیان مي یابند خصو
صا روته اهله که جناب آن با مشا
هده کم موافقت میکند

'Seeing that very important affairs 'both regarding religion and the ad-'miniſtration of empire depend upon 'theſe; and that in the time of the 'riſing and ſetting of the planets, 'and the ſeaſons of eclipſes of the 'ſun and moon, many conſiderable 'diſagreements, of a ſimilar na-'ture, were found; he repreſented

و حال آنکه کارهاي سترک
ارباب مال و نحل و اصحاب
دین و دول بدان منوط و مربوط
است و همین طور در اوقات ظهور
و خفاي کواکب سیارات واز منه
کسوفات و خسوفات اکثر تفاوت
فا حش رومیدهد اینمعني را

'it

بعرض حضرت قدر قدرت مهر
سپهر ابهت و کامکاري غره ناصيه
عظمت و شهر ياري دريکتاي
بحر خلافت کبري دُرّي بي
همتاي فلک ملطنت عظمي خو
رشيد علم مرحشم مرج رمح عطار
دقلم ناهيد خدم سپهر آستان
مشتري نکين کيوان پاسبان
السلطان ابن السلطان الخاقان
ابن الخاقان سکندر جاه ظل
اسباد شاه غازي محمد شاه لازال
مظفرا في المعارک والمغازي
رسانيد

'it to his majeſty of dignity and 'power, the ſun of the firmament 'of felicity and dominion, the ſplen-'dor of the forehead of imperial 'magnificence, the unrivalled pearl 'of the ſea of ſovereignty, the in-'comparably brighteſt ſtar of the 'heaven of empire, whoſe ſtandard is 'the Sun, whoſe retinue the Moon; 'whoſe lance is MARS, and his pen 'like MERCURY; with attendants 'like VENUS; whoſe threſhold is the 'ſky, whoſe ſignet is JUPITER; 'whoſe centinel SATURN; the Em-'peror deſcended from a long race of 'Kings; an ALEXANDER in dignity; 'the ſhadow of GOD; the victorious 'king, *Mahommed Shah*, may he ever 'be triumphant in battle!

فرمودند که چون آن داناي
اسرار را درين امر مهارت تمام
است مهندسان و منجمان فرقر
اسلام و برهمنان و پندتال و
منجمان فريکرا جمع بموده و

'He was pleaſed to reply, ſince you, 'who are learned in the myſteries of 'ſcience, have a perfect knowledge 'of this matter; having aſſembled the 'aſtronomers and geometricians of the 'faith of ISLAM and the *Bramins* and

'*Pandits*,

'*Pandits*, and the aſtronomers of *Eu-*
'*rope*, and having prepared all the ap-
'paratus of an obſervatory, do you
'ſo labour for the aſcertaining of the
'point in queſtion, that the diſagree-
'ment between the calculated times
'of thoſe phenomena, and the times
'in which they are obſerved to happen
'may be rectified.

آلات رصدي ساخته تحقيقت
كار وارسيده چنان سعي نهايد
كه اين اختلال كه در زمان
محسوب امور مر بوره و وقت مر
صود آنها واقع ميشود مر نقع
كردد

'Although this was a mighty taſk,
'which during a long period of time
'none of the powerful Rajahs had
'proſecuted; nor, among the tribes
'of ISLAM, ſince the time of the mar-
'tyr prince, whoſe ſins are forgiven,
'MIRZA ULUGA BEG, to the preſent,
'which comprehends a period of
'more than three hundred years, had
'any one of the kings, poſſeſſed of
'power and dignity, turned his at-
'tention to this object; yet, to ac-
'compliſh the exalted command
'which he had received, he (*Jeyſing*,)
'bound the girdle of reſolution about
'the loins of his ſoul, and conſtructed
'here (at Dehly) ſeveral of the in-

هرچند كه اين امر خطير بود
ومدت مديد شده كه از راجهاي
دوالا قتدار كي پير امون ان
نكرديده و در فرقه اهل اسلام هم
از زمان شاه مرزا انع بيك تا اين
زمان كه زياده از سيصد مال
كذر شته هيچ يكي از سلا طين
ذي شان وصاحب ثروتان بلند
مكان باين كار ميتوجه نكشته از
بر اي بجا آوردن فر موده ار
فع اعلي سرانجام امر ما موررا
نطاق همت بر ميان جان بسته
چندي از آلات رصدي ما
نند انكه در سمرقند ساخته

'ſtruments

'ſtruments of an obſervatory, ſuch 'as had been erected at *Samarcand*, 'agreeably to the *Muſulman* books: 'ſuch as *Zatul-huluck*, of braſs, in di- 'ameter three *guz* of the meaſure now 'in uſe, (which is nearly equal to two 'cubits of the *Coram)* and *Zat-ul-* '*ſhobetein*, and *Zat-ul-ſuchetein*, and '*Suds-Fukheri*, and *ſhamlah*. But find- 'ing that braſs inſtruments did not 'come up to the ideas which he had 'formed of accuracy, becauſe of the 'ſmallneſs of their ſize, the want of 'diviſion into minutes, the ſhaking 'and wearing of their axes, the diſ- 'placement of the centres of the cir- 'cles, and the ſhifting of the planes of 'the inſtruments; he concluded that 'the reaſon why the determinations of 'the ancients, ſuch as HIPPARCHUS 'and PTOLEMY proved inaccurate, 'muſt have been of this kind; there- 'fore he conſtructed in *Dar-ul-khe-* '*láfet Shah-Jehanabad*, which is the 'ſeat of empire and proſperity, inſtru- 'ments of his own invention, ſuch as *Jey-* '*pergás* and *Ram-junter* and *Semrát-* 'junter,

بود ند ازروي كتب اسلام در
ايجا هم ساخت ذات الحلق بر
نحبي بقطرسه كز رايج اين عصر
كه قريب ضعف ذراع اهل شرع
است و ذات الشعبتين و ذات
الثقتين و سدس فخري و شامله
ليكن چون آلهاي بر نجيرا بنبب
خردي وعدم تقيم بدقايق ولرزش
خوردن وسوده كشتن قطبهاي و
بيجا شدن مركز دوا يرواختلال
و ضع مقرري مطلوب كماينغي
مشهرمدعانيا فت معلوم كرد كه
سبب درست نيامدن مقررات قد
ما مانند ابرخس وبطلميوس امثال
همين امور خواهد بودبنا بر ان
در دار الخلافة شاه جهان آباد
كه محل دولة و اقبال است
التهاى اختر اعي خود مثل حي
پركاس و رام جنتر و سمر اتهه
جنتر كه نصف قطر آن هزده ذراع

'*junter*, the ſemidiameter of which is 'of eighteen cubits, and one minute 'on it is a barley-corn and a half; 'of ſtone and lime, of perfect ſtabili- 'ty, with attention to the rules of ge- 'ometry, and adjuſtment to the meri- 'dian, and to the latitude of the place, 'and with care in the meaſuring and 'fixing of them; ſo that the inaccu- 'racies from the ſhaking of the cir- 'cles, and the wearing of their axes, 'and diſplacement of their centres, 'and the inequality of the minutes, 'might be corrected.

است و دقیقه آن یک و نیم شعیره
میشود ازسنگ و آهک باستحکام
تمام و رزانت مالا کلام نار علیت
قوانین هندسي و تحقیق خط
نصف النهار و عرض بلد و احتیاط
در پیما یش و نصب آنها تار کرده
تابدین سبب خلل لرزش حلقهاي
دوایر و سایدن اقطاب و بیجا
شدن مراکز و تفاوت دقایق
برطرف گردید

'Thus an accurate method of con- 'ſtructing an obſervatory was eſta- 'bliſhed; and the difference which 'had exiſted between the computed 'and obſerved places of the fixed ſtars 'and planets, by means of obſerving 'their mean motions and aberrations 'with ſuch inſtruments, was removed. 'And, in order to confirm the truth 'of theſe obſervations, he conſtructed 'inſtruments of the ſame kind in *Suvaï* '*Jeypoor*, and *Matra*, and *Benares*, and '*Oujein*.---When he compared theſe

وبراي رصد طریق مستقیم پید
اکشت و تفاوتي که در محسوب
نوابت و سیار و مر صود آنها
میشد با سقانت چنین آلات او
ساط و حرکات واقعي آنها دانسته
مر تفع ساخت وبراي استشهاد
حقنت مدعا بهین قسم آلات در
سواي جي پور و متهرا و بنارس و
اوجین هم بنا کرده شد چون
رصدهاي این امکنه را بعد از
تفاوت مالا حظر اطوال بالاد مقابله

‘ obſervatories, after allowing for the
‘ difference of longitude between the
‘ places where they ſtood, the obſer-
‘ vations and calculations agreed.—
‘ Hence he determined to erect ſimi-
‘ lar obſervatories in other large ci-
‘ ties, that ſo every perſon who is de-
‘ voted to theſe ſtudies, whenever he
‘ wiſhes to aſcertain the place of a
‘ ſtar, or the relative ſituation of one
‘ ſtar to another, might by theſe in-
‘ ſtruments obſerve the phenomena.
‘ But, ſeeing that in many caſes it is
‘ neceſſary to determine paſt or fu-
‘ ture phenomena, and alſo, that in
‘ the inſtant of their occurrence,
‘ clouds or rain may prevent the ob-
‘ ſervation, or the power and oppor-
‘ tunity of acceſs to an obſervatory
‘ may be wanting, he deemed it ne-
‘ ceſſary that a table be conſtructed,
‘ by means of which the daily places
‘ of the ſtars being calculated every
‘ year, and diſpoſed in a calendar,
‘ may be always in readineſs.

گردند محسوب بامر صود یکي
امد قصد بران مصمم شد که همین
طور آلات در شهر هاي کلان
دیکر هم ساخته وپر داخته کردد
تا هر که آستاي این فن با شد
هر کاه که موضع کوکبي
با وضع کوکبي بسته بکو
کب دیکر خوا هد که معلوم
کند ازین آلتها بعیان مشاهده
نماید اماچون اکثر احتیاج واقع
میشود که اوضاع مستقله و
حالات ماضیه معلوم نمایند و نیز
در وقت مطلوب کاه باشد که
ابر و باران مانع رصد شود یا اقتدار
و فرصت وصل برصد خانه مفقور
باشر زیچي ساخته شود که از
روي آن تقویمهاي هر روزه کوا
کب سال بسال استخراج نموده
در دفتر ثبت نماید که در هر
وقت معد باشد

‘ In the ſame manner as the geo-
‘ meters and aſtronomers of antiquity

چون مهندسان پیشین وراصدان
سابق سا لهاي بسیار در شغل
‘ beſtowed

'bestowed many years on the practice
'of observation, thus, for the esta-
'blishment of a certain method, after
'having constructed these instruments,
'the places of the stars were daily
'observed. After seven years had
'been spent in this employment, in-
'formation was received, that about
'this time observatories had been
'constructed in *Europe*, and that the
'learned of that country were em-
'ployed in the prosecution of this
'important work; that the business
'of the observatory was still carrying
'on there, and that they were con-
'stantly labouring to determine with
'accuracy, the subtleties of this sci-
'ence. For this reason, having sent
'to that country several skilful per-
'sons along with PADRE MANUEL,
'and having procured the new tables
'which had been constructed there
'thirty years * before, and published
'under the name of *Leyyer* †, as
'well as the European tables an-

رصد بسر برده‌اند بنابر طریق
معهود بعد تیار ساختن این آلات
هر روز در رصد کواکب کرده
نقید میسد چون کشت نیکار
هفت سال گذشت مسموع گشت
که در نزدیک باین زمان در
فرنگ هم آلات رصدي در ست
کرده اند واکابر انجا و رانایان
ایشان باینکارف مشتغل و متوجه
اند کار خانه رصد در انجا هنوز
هم جا ریست و همو اره در
تحقیق وقایق اینعلم اند بنا
علیه از ینجا چند کس معتمد
علم داناي این فن رابر فاقت
منویل پادري بان سمت فرستاده
زیچ جدیل آنجا که با سم لیر
نهیه یافیه وسي سال گذشته که
بتازکي مرتب کشته باز بچهاي
سابق آن دیار طلبد اشته ملا
حظر نموده چون محسوب آنرا بامر

* JEYSING finished his tables in the year of the Hijira 1141, or A. D. 1728.

† DE LA HIRE, published the first edition of his tables in 1687, and the second in 1702.

'terior

'terior to thoſe; on examining and 'comparing the calculations of theſe 'tables, with actual obſervation, it 'appeared there was an error in the 'former, in aſſigning the moon's 'place, of half a degree: although 'the error in the other planets was 'not ſo great, yet the times of ſolar 'and lunar eclipſes he found to come 'out later or earlier than the truth, by 'the fourth part of a *g,hurry* or fifteen '*puls**. Hence he concluded that, 'ſince in *Europe*, aſtronomical inſtru-'ments have not been conſtructed of 'ſuch a ſize, and ſo large diameters, 'the motions which have been ob-'ſerved with them may have deviated 'a little from the truth; ſince, in this 'place, by the aid of the unerring ar-'tificer, aſtronomical inſtruments 'have been conſtructed with all the 'exactneſs that the heart can deſire; 'and the motions of the ſtars have, 'for a long period, been conſtantly 'obſerved with them; agreeably

صود لحاظ کرده شده در تقویم
قمر تفاوت نیم در جر ظا هر
کردید اکر چه در سیارات دیکر
آنقدر نبود و از منه کسو فات
و خسو فاترا تاریع دقیقه یوم
که عبار ت از پافزده پل با شد
پیش و پس یافت دانست که چون
در فرنک الات رصدي باین
برزکي و اقطار نسا خته اند
حرکاتي که بتو سط آن در یافته
اند پارهٔ از تحقیق دور افتاده
چون بیا یدکار ساز حقیقي
اینجا آلات رصدي بحسب
خواهش دل چنانچه باید مر تب
شد وتامدت مدید تحقیق حر
کات کواکب ورصد آن نموده
از روي آن اوساط و تعدیلات
براي آنها مقر رکست محسوب

* 'Equal to ſix minutes of our time, an error of three minutes in the moon's place would occa-'ſion this difference in time, and as it is improbable, that La Hire's tables ſhould be inaccurate 'to the extent mentioned above, of half a degree, I conceive there muſt be an error in the 'original.'

'to obſervation the mean motions 'and equations were eſtabliſhed. He 'found the calculation to agree per- 'fectly with the obſervation; and al- 'though even to this day the buſineſs 'of the obſervatory is carried on, 'a table under the name of his Ma- 'jeſty, the ſhadow of God, compre- 'hending the moſt accurate rules, and 'moſt perfect methods of com- 'putation was conſtructed; that ſo, 'when the places of the ſtars, and the 'appearance of the new moons, and 'the eclipſes of the ſun and moon, 'and the conjunctions of the heaven- 'ly bodies, are computed by it, they 'may arrive as near as poſſible to the 'truth, which, in fact, is every day 'ſeen and confirmed in the obſervatory.

'It therefore behoveth thoſe who 'excel in this art, in return for ſo great 'a benefit, to offer up their prayers 'for long continuance of the power 'and proſperity of ſo good a King, 'the ſafeguard of the earth, and 'thus obtain for themſelves a bleſſing 'in both worlds.

رابامر مودبي تفاوت يا فت و
هر چند كه هنوز هم كار
رصد جاريست زيچي بنام نامي
حضرت ظل الهي مشتمبلر اصوب
طرق واحسن و جوه در ست
كرده شدكه چون بدان استخراج
تقاويم ورو يت اهله و كسوفات و
خسو فات وقرانات نمايند اقرب به
تحقيق با شد چنانكه اينمعني
بالفعل در رصد خانه مشا هده و
مبين ميشو دناید كه ارباب اين
فن در مقابله اين نعمت عظمي
بد عا دوام رولت و خلافت
چين باد شاه عالم باه مشغول
كشته سعادت داربن حاصل
نما يند

The

The five obſervatories conſtructed by *Jayaſinha* ſtill exiſt, in a ſtate more or leſs perfect. Having had the opportunity of examining four of the number, I ſhall ſubjoin a ſhort deſcription of them.

The obſervatory at *Dehly* is ſituated without the walls of the city, at the diſtance of one mile and a quarter; it lies S. 22 deg. W. from the *Jummah Muſjid*, at the diſtance of a mile and three quarters, its latitude 28 deg. 37 min. 37 ſec. N. * longitude 77 deg. 2 min. 27 ſec. E. from Greenwich; it conſiſts of ſeveral detached buildings:

1. A large Equatorial Dial, of the form repreſented at the letter A in Sir *Robert Barker's* deſcription of the Benares obſervatory, (Ph. Tranſ. vol. LXVII.) its form is pretty entire, but the edges of the gnomon, and thoſe of the circle on which the degrees were marked, are broken in ſeveral places. The length of the gnomon, meaſured with a chord, I found to be 118 feet ſeven inches, reckoning its elevation equal to the latitude of the obſervatory, 28 deg. 37 min.; this gives the length of the baſe 104 feet one inch, and the perpendicular height 56 feet nine inches; but, the ground being lower at the north end, the actual elevation at the top of the gnomon above it is more than this quantity. This is the inſtrument called by *Jayaſinha, ſemrat Yunter* (the prince of dials). It is built of ſtone, but the edges of the gnomon and of the arches, where the graduation was, were of white marble, a few ſmall portions of which only remain.

2. At a little diſtance from this inſtrument towards the N.W. is another equatorial dial, more entire, but ſmaller, and of a different conſtruction. In the middle ſtands a gnomon, which, as uſual in theſe buildings, contains a

* The latitude aſſigned to it in the *Zeej Mahommedſhahy* is 28 deg. 37 min.

ſtair

ſtair up to the top. On each ſide of this gnomon are two concentric ſemicircles, having for their diameters the two edges of the gnomon; they have a certain inclination to the horizon: at the ſouth point, I found it to be twenty-nine degrees (nearly equal to the latitude,) but at ſome diſtance from that point it was thirty-three degrees. Hence it is evident, that they repreſent meridians, removed by a certain angle upon the meridian of the place. On each ſide of this part is another gnomon, equal in ſize to the former; and to the eaſtward and weſtward of them, are the arches on which the hours are marked. The uſe of the centre part above deſcribed, I have never been able to learn. The length of the gnomon, which is equal to the diameter of the outer circle, is thirty-five feet four inches. The length of a degree on the outer circle is 3.74 inches. The diſtance between the outer and inner circle is two feet nine inches. Each degree is divided into ten parts, and each of theſe is ſubdivided into ſix parts or minutes.

3. The north wall of this building connects the three gnomons at their higheſt end, and on this wall is deſcribed a graduated ſemicircle, for taking the altitudes of bodies, that lie due eaſt or due weſt from the eye of the obſerver.

4. To the weſtward of this building, and cloſe to it, is a wall, in the plane of the meridian, on which is deſcribed a double quadrant, having for centres the two upper corners of the wall, for obſerving the altitudes of bodies paſſing the meridian, either to the north or ſouth of the Zenith. One degree on theſe quadrants meaſured 2.833 inches, and theſe are divided into minutes.

5. To the ſouthward of the great dial are two buildings, named

Uſtuanah.

Uſtuanah. They exactly reſemble one another, and are deſigned for the ſame purpoſe, which is to obſerve the altitude and azimuth of the heavenly bodies, they are two in number, on purpoſe that two perſons may obſerve at the ſame time, and ſo compare and correct their obſervations.

Theſe buildings are circular, and in the centre of each is a pillar of the ſame height with the building itſelf, which is open at top. From this pillar, at the height of about three feet from the bottom, proceed radii of ſtone horizontally to the circular wall of the building. Theſe radii are thirty in number; the ſpaces between them are equal to the radii themſelves, which meaſure in breadth as they recede from the pillar, ſo that each radius and each intermediate ſpace forms a ſector of ſix degrees.

The wall of the building at the ſpaces between the radii forms receſſes internally, being thinner at thoſe places than where it joins the radii. In each of theſe receſſes are two windows, one over the other; and in the ſides of the receſs are ſquare holes, at about the diſtance of two feet, above one another, by means of which a perſon may climb to the top. On the edges of theſe receſſes are marked the degrees of the ſun's altitude, or rather the tangents of thoſe degrees ſhewn by the ſhadow of the centre pillar; and numbered from the top, from one degree to forty-five. For the altitude, when the ſun riſes higher, the degrees are marked on the horizontal radii; but they are numbered from the pillar outwards, beginning with one, ſo that the number here pointed out by the ſhadow, is the complement of the altitude. Theſe degrees are ſubdivided into minutes. The ſpaces on the wall, oppoſite to the radii, are divided into ſix equal parts, or degrees, by lines drawn from top to bottom, but theſe degrees are not ſubdivided. By obſerving on which

which of theſe the ſhadow of the pillar falls, we may determine the ſun's azimuth. The parts on the pillar oppoſite to the radii, and the intermediate ſpaces, in all ſixty, are marked by lines reaching to the top, and painted of different colours.

In the ſame manner that we determine the altitude and azimuth of the ſun, we may alſo obſerve thoſe of the moon, when her light is ſtrong enough to caſt a ſhadow. Thoſe of the moon at other times, or of a ſtar, may alſo be found by placing the eye either on one of the radii, or at the edge of one of the receſſes in the wall (according as the altitude is greater or leſs than forty-five degrees,) and moving along till the top of the pillar is in a line with the object. The degree at which the eye is placed will give the altitude, or its complement, and the azimuth known from the number of the radius to which the eye is applied.

The dimenſions of the building are as follow :

	Ft.	In.
Length of the radius from the circumference of the centre pillar to the wall; being equal to the height of the wall above the radii - - - - - - - -	24	6½
Length of one degree on the circular wall - -		5½
Which gives for the whole circumference - - -	172	6
Circumference of the pillar { meaſured by a handkerchief carried round it - }	17	0¾
{ Deduced from its coloured diviſions meaſured with compaſſes - - - }	17	2½

I do not ſee how obſervations can be made when the ſhadow falls on the ſpaces between the ſtone radii or ſectors; and from reflecting on this, I am inclined to think, that the two inſtruments, inſtead of being duplicates, may

be ſupplementary one to the other; the ſectors in one correſponding to the vacant ſpaces in the other, ſo that in one or other an obſervation of any body viſible above the horizon, might at any time be made. This point remains to be aſcertained.

6. Between theſe two buildings and the great equatorial dial, is an inſtrument called *ſhamlah*. It is a concave hemiſpherical ſurface, formed of maſon work, to repreſent the inferior hemiſphere of the heavens. It is divided by ſix ribs of ſolid work, and as many hollow ſpaces; the edges of which repreſent meridians at the diſtance of fifteen degrees from one another. The diameter of the hemiſphere is twenty-ſeven feet five inches.

The next in point of ſize and preſervation among thoſe which I have had the opportunity of examining, is the obſervatory at Oujein. It is ſituated at the ſouthern extremity of the city in the quarter called *Jeyſingpoorah*, where are ſtill the remains of a palace of *Jayaſinha*, who was ſoubahdar of Meliva, in the time of *Mahommed Shah*. The parts of it are as follow:

1. A double mural quadrant, fixed in the plane of the meridian. It is a ſtone wall, twenty-ſeven feet high, and twenty-ſix feet in length. The eaſt ſide is ſmooth and covered with plaiſter, on which the quadrants are deſcribed; on the weſt ſide is a ſtair, by which you aſcend to the top. At the top, near the two corners, and at the diſtance of twenty-five feet one inch from one another, were fixed two ſpikes of iron, perpendicular to the plane of the wall; but theſe have been pulled out. With theſe points as centres, and a radius equal to their diſtance; two arcs of 90 degrees are deſcribed interſecting each other. Theſe are divided in the manner repreſented in the margin. One diviſion in the upper circle

is

is equal to ſix degrees; in the ſecond one degree, (the extent contained in the ſpecimens) in the third ſix minutes, and in the fourth one minute. One of theſe arcs ſerves to obſerve the altitude of any body to the north, and the other of any body to the ſouth of the Zenith; but the arc which has its centre to the ſouth, is continued to the ſouthward beyond the perpendicular, and its centre about half a degree, by which, the altitude of the ſun, can at all times be taken on this arc. With this inſtrument *Jayaſinha* determined the latitude of Oujein to be 23° 10′ N.

Suppoſing the latitude, here meant, to be (as is moſt probable) that of the obſervatory, I was anxious to compare it with the reſult of my own obſervations (Aſiatick Reſearches, vol. IV. p. 150. 152.) and, for that purpoſe, I made an accurate meaſurement from our camp, at SHAH DAWUL's *durgah*, to the mural quadrant of the obſervatory. I found the ſouthing of the quadrant from our camp to be one mile 3.9 furlongs, which makes 1′ 17″ difference of latitude.

The latitude of the camp, by medium of two obſervations, of the ſun is - - - - -	23°	11′	54″
Deduced from the medium of ſix obſervations of fixed ſtars, taken at RANA KHAN's garden, at different latitude 7″ S.	23	11	45
From obſervation of the ſun at the ſame place	23	11	37
From two obſervations of ☌☿, taken at the houſe in town, at different latitude 32″ S. - - -	23	11	28
			164
Latitude of *Shah Dawul's* durgar, by medium of all obſervations	23	11	41
Difference of latitude, camp and obſervatory -		1	17
Gives the latitude of the obſervatory -	23	10	24

A cloſer coincidence could not be expected, eſpecially as no account is made of ſeconds in any of the latitudes given in the *Zeej Mahommedſhahy*. But, if farther refinement were deſired, we might account for the difference, by the Hindu obſervers not having made any allowance for refraction. Thus, if we ſuppoſe the ſun's altitude to have been obſerved, when on the equator, the reſult will be as follows:

Latitude of the obſervatory - -	23°	10′	24″
Its complement, being the true altitude of the ſun on the equator - - -	66	49	36
Refraction - - -			24
Sun's apparent altitude - -	66	50	0
Latitude of the obſervatory from obſervation of the ſun upon the equator without allowing for refraction -	23	10	0

But (beſides that I do not pretend, that the mean of my own obſervations can be relied on, to a leſs quantity than fifteen ſeconds,) when we conſider, that a minute on the quadrant of the obſervatory is hardly .09 of an inch, without any contrivance for ſubdiviſion, we ſhall find it needleſs to deſcend into ſuch minuteneſs: and as *Jayaſinha* had European obſervers, it is not likely the refraction would be neglected, eſpecially as the *Zeej Mahommedſhahy* contains a table for that purpoſe. This table is an exact copy of M. De La Hire's, which may be ſeen in the Encyclopedie, art. Refraction.

This inſtrument is called, *Yám-utter-bhitti-yunter*. With one of the ſame kind at Dehly, (No. 4, Dehly obſervatory,) in the year 1729, *Jayaſinha* ſays, he determined the obliquity of the ecliptic to be 23° 28′. In the following year (1730) it was obſerved by Godin 23° 28′ 20″.

2. On

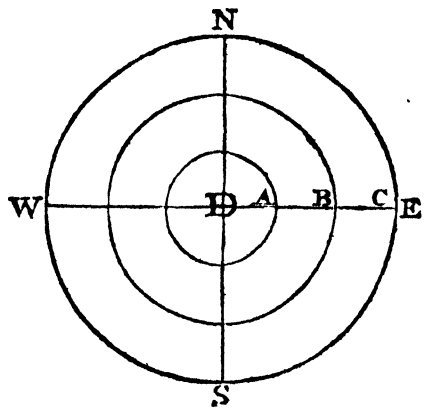
2. On the top of the mural quadrant is a ſmall pillar, the upper circle of which being two feet in diameter, is graduated for obſerving the amplitude of the heavenly bodies, at their riſing and ſetting; it is called *Agra Yunter*. The circles on it are very much effaced.

3. About the middle of the wall the parapet to the eaſtward is increaſed in thickneſs, and on this part is conſtructed a horizontal dial called *Puebha Yunter*. Its length is two feet four inches and a half, but the diviſions on it are almoſt totally effaced.

4. *Dig anſa Yunter*, a circular building, 116 feet in circumference. It is now roofed with tiles, and converted into the abode of a Hindu deity, ſo that I could not get acceſs to examine its conſtruction; but the following account of it is delivered in the *Sem'rat Siddhanta*, an aſtronomical work compoſed under the inſpection of *Jayaſinha*.

On a horizontal plane deſcribe the three concentric circles A B C, and draw the north, ſouth, eaſt, and weſt lines, as in the figure. Then, on A build a

ſolid



ſolid pillar, of any height at pleaſure; on B build a wall, equal in height to the pillar at A; and on C a wall of double that height. From the north, ſouth, eaſt, and weſt points, on the top of the wall C ſtretch the threads N.S. W.E. interſecting each other in the point D, directly above the centre of the pillar A. To the centre of that pillar faſten a thread, which is to be laid over the top of the wall C, and to be ſtretched by a weight ſuſpended to the other end of it.

The uſe of this inſtrument is for obſerving the azimuth *(dig-anſu)* of the heavenly bodies; and the obſervations with it are made in the following manner: The obſerver ſtanding at the circumference of the circle B, while an aſſiſtant manages the thread moveable round the circle C, places his eye ſo that the object to be obſerved, and the interſection of the threads N.S. W.E. may be in one vertical plane, while he directs the aſſiſtant to carry the moveable thread into the ſame plane. Then the degrees on the circle C cut off by the moveable thread, give the azimuth required. In order to make this obſervation with accuracy, it ſeems neceſſary that the point D, and the centre of the pillar A, ſhould be connected by a thread per-

perpendicular to the horizon; but no mention is made of this in the original deſcription.

5. *Náree-wila-yunter*, or equinoctial dial, is a cylinder, placed with its axis horizontally, in the north and ſouth line, and cut obliquely at the two ends, ſo that theſe ends are parallel to the equator *(Náree-wila)*. On each of theſe ends a circle is deſcribed, the diameter of which in this inſtrument is 3 feet 7 inches and a half. Theſe are divided into *g,hurries*, of ſix degrees, into degrees and ſubdiviſions, which are now effaced. In the centre of each circle, was an iron pin (now wanting) perpendicular to the plane of the circle, and conſequently parallel to the earth's axis. When the ſun is in the ſouthern ſigns, the hours are ſhewn by the ſhadow of the pin in the ſouth, and when he is in the northern ſigns by that to the north. On the meridian line on both ſides are marked the co-tangent, to a radius equal to the length of the centre pin. The ſhadow of the pin on this line at noon, points out the ſun's declination.

6. *Semrát-yunter*, alſo called *Náree-wila*, another form of equinoctial dial. (Fig. A of Sir ROBERT BARKER's plate.) It conſiſts of a gnomon of ſtone, containing within it a ſtair. Its length is 43 feet 3.3 inches; height from the ground, at the ſouth end, 3 feet 9.7 inches; at the north end 22 feet, being here broken. On each ſide is built an arc of a circle, parallel to the equator, of 90 degrees. Its radius is 9 feet 1 inch; breadth from north to ſouth 3 feet 1 inch. Theſe arcs are divided into *g,hurries* and ſubdiviſions; and the ſhadow of the gnomon among them points out the hours. From the north and ſouth extremities of the interſection of theſe arcs with the gnomon, are drawn lines upon the gnomon, perpendicular to the line of their inter-

interſection. Theſe are conſequently radii of the arcs; and from the points on the upper edge of the gnomon where theſe lines cut it, are conſtructed two lines of tangents, one to the northward, and another to the ſouthward, to a radius equal to that of the arc. To find the ſun's declination, place a pin among theſe diviſions, perpendicular to the edge of the gnomon; and move it backwards and forwards, till its ſhadow falls on the north or ſouth edge of the arc below: the diviſion on which the pin is then placed, will ſhew the ſun's declination. In like manner, to find the declination *(kránti)* of a ſtar, and its diſtance in time, from the meridian *(net-ghurry)* place your eye among the diviſions of the arc, and move it till the edge of the gnomon cut the ſtar, while an aſſiſtant holds a pin among the diviſions on the edge of the gnomon, ſo that the pin may ſeem to cover the ſtar. Then the diviſion on the arc at which the eye was placed, will ſhew the diſtance of the ſtar from the meridian; while the place of the pin, in the line of tangents, will ſhew its declination.

At *Matra* the remains of the obſervatory are in the fort, which was built by *Jayaſinha* on the bank of the *Jumna*. The inſtruments are on the roof of one of the apartments. They are all imperfect, and in general of ſmall dimenſions.

1. An Equinoctial Dial, being a circle nine feet two inches in diameter, placed parallel to the plane of the equator, and facing northwards. It is divided into *g,hurries* of ſix degrees each: each of theſe is ſubdivided into degrees, which are numbered as *puls* 10, 20, 30, 40, 50, 60: laſtly, each ſubdiviſion is farther divided into five parts, being 12 minutes, or two *puls*. In the centre is the remains of the iron ſtyle, or pin, which ſerved to caſt the ſhadow.

2. On

2. On the top of this inſtrument is a ſhort pillar, on the upper ſurface of which is an amplitude inſtrument (like that deſcribed No. 2, *Oujein* obſervatory, called *Agra-yunter*); but it is only divided into octants. Its diameter is two feet five inches.

3. On the level of the terrace is another amplitude inſtrument, divided into ſixty-equal parts. Its diameter is only thirteen inches.

4. On the ſame terrace is a circle, in the plane of the horizon, with a gnomon ſimilar to that of a horizontal dial, but the diviſions are equal, and of ſix degrees each. It muſt therefore have been intended for ſome other purpoſe than the common horizontal dial, unleſs we may conceive it to have been made by ſome perſon who was ignorant of the true principles of that inſtrument. This could not have been the caſe with *Jayaſinha* and his aſtronomers; but the inſtrument has ſome appearance of being of a later date than moſt of the others: they are all of ſtone or brick, plaiſtered with lime, in which the lines and figures are cut; and the plaiſter of this inſtrument, though on the level of the terrace, and conſequently more expoſed to accidents than the others, is the freſheſt and moſt entire of all.

5. On the eaſt wall, but facing weſtward, is a ſegment, exceeding a ſemicircle, with the arch downwards. It is divided into two parts, and each of theſe into fifteen diviſions. Its diameter is four feet. On the weſt wall, facing eaſtwards, is a ſimilar ſegment, with the arch upwards, divided in the ſame way as the former. Its diameter is ſeven feet nine inches.

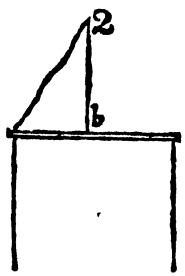
The obſervatory at *Benares* having been deſcribed by Sir ROBERT BARKER, and Mr. WILLIAMS, I have only a few remarks to offer, in addition to the account delivered by thoſe gentlemen.

I. A. (of Sir *Robert Barker's* plate) is the *Semrat-yunter*, deſcribed *Dehly* obſervatory, No. I. and *Oujein* obſervatory, No. VI. The arcs on each ſide are carried as far as ninety-ſix degrees, which are ſubdivided into tenth parts. Each ſpace of ſix degrees is numbered from the bottom of the arc towards the top, ſixteen in each arc. Each of theſe is equal to twenty-four minutes of our time, which anſwers to the *Hindu* aſtronomical *g,hurry*. Beſides the ſtair contained in the gnomon, one aſcends along a limb of each arc. The dimenſions have been given by Mr. *Williams*, with an accuracy that leaves me nothing to add on that head. With reſpect to the reaſon of the name I am ſomewhat in doubt. It may have been given from its eminent utility; but the Rajah had conferred on one of his principal *Pandits* the title of *Semrat* or Prince; and perhaps this inſtrument, as well as the *Semrat-ſiddhanta*, may have been denominated in compliment to him; as another inſtrument (which I have not been able to find out) was called *Jey-pergas* in alluſion to the Rajah's name.

B is the equinoctial dial or *Naree-wila* of No. V. *Oujein* obſervatory. The name given by the *Pandits* to Mr. *Williams (gentu-rage)* probably ought to be *yunter* or *yunter-raj*, q. d. the royal dial.

C is a circle of iron, faced with braſs, placed between two ſtone pillars, about the height of the eyes, and revolving round one of its diameters, which is fixed parallel to the axis of the world. The breadth of the rim of the circle is two inches, the thickneſs of iron one inch, of braſs three tenths of an inch. The diameter mentioned before is not the ſame breadth, and

and thickneſs with the rim. The limb is divided into 360 degrees, each degree into four equal parts; and there are larger diviſions, containing ſix degrees each. The ſize of a degree is .3 of an inch. Round the centre revolves an index of braſs; the end of which is formed as in the margin; and the line A B, which produced, paſſes through the centre of the circle, marks the degrees. From this deſcription, it appears that the circle when placed in a vertical poſition, is in the plane of the meridian of Benares; when it declines from that poſition, it repreſents ſome other meridian. Were there any contrivance for meaſuring the quantity of this deviation, it would anſwer the purpoſe of an equatorial inſtrument, for determining the place of a ſtar, or any other phænomenon in the heavens. For by moving the circle and its index, till the latter points exactly to the object, the degrees of deviation from the vertical poſition would mark the diſtance of the object from the meridian; and the degrees on the circle, interſected between the index and the diameter, which is perpendicular to that on which it revolves, would ſhew its declination. This laſt may indeed be obſerved with the inſtrument in its preſent ſtate; but I am inclined to think, that there has been ſome contrivance for the former part alſo; having been informed by a learned Pandit, that in two rings of this kind in the *Jeyanagar* obſervatory ſuch contrivance actually exiſts. On one of the pillars that ſupport the axis, a circle is deſcribed parallel to the equator, divided into degrees and minutes; to the axis of the moveable circle is fixed an index, which is carried round by the emotion of the circle; and thus points out among the diviſions on the immoveable circle, the diſtance from the meridian of the body to be obſerved.



Obſervations with this inſtrument cannot have admitted of much accuracy,

as the index is not furniſhed with ſights; and the pin by which it is fixed to the centre of the circle is ſo prominent, that the eye cannot look along the index itſelf.

The literal meaning of the *Sanſcrit* term *Kranti-writ*, is *circle of declination*, which may, with ſome propriety, have been applied to this inſtrument, as mentioned by Mr. *Williams*. But this name is, in the *Hindu* aſtronomical books, peculiarly appropriated to the ecliptic; and as the *Sem'rat Sid-dhanta* contains the deſcription of an inſtrument called *Kranti-writ-yunter*, wherein a circle is made, by a particular contrivance, to retain a poſition parallel to the ecliptic, I am inclined to believe that the appellation has been erroneouſly given by the ring above deſcribed.

D is the *Dig-anſa-yunter*, No. 4. Oujein obſervatory. The "iron pins," with ſmall holes in them, on the top of the outer wall, at the four cardinal "points," are undoubtedly as the Pandits informed Mr. *Williams* for ſtretching the wires, or threads, the uſe of which is fully explained above.

The quadrant deſcribed by Sir *Robert Barker*, but not repreſented in his plate, is the *Yam-utter-bhitti-yunter*, deſcribed *Oujein* obſervatory, No. 1.

On the ſouth-eaſt corner of the terrace is a ſmall platform raiſed above its level, ſo that you mount upon it by a flight of ſteps. Upon this we find a circle of ſtone, which Mr. *Williams* found to be ſix feet two inches in diameter, in a poſition inclined to the horizon. Mr. *Williams* ſays it fronts the weſt, and that he could not learn the uſe of it.

I dare not, without further examination, oppoſe to this what I find in my notes, taken in 1786, that it ſtands in the plane of the equinoctial. If that is the caſe it has been clearly intended for a dial of the ſame kind as fig. B. and

B. and probably, as Mr. *Williams* ſays, never completed, as I found no appearance of graduation on the circle.

Having deſcribed thoſe among the obſervatories conſtructed by *Jayaſinha*, which have fallen under my obſervation, I proceed to give ſome account of the tables intitled *Zeej Mahommedſhahy*. But here I ſhould regret that, not having acceſs to the *Tabulæ Ludovicia* of *La Hire*, I am unable to determine, whether thoſe of *Jayaſinha* are merely taken from the former, by adapting them to the *Arabian* lunar year; or, whether, as he aſſerts, they are corrected by his own obſervations; did not the zeal for promoting enquiries of this nature, manifeſted in the queries propoſed to the Aſiatick Society by Profeſſor PLAYFAIR (to whom I intend to tranſmit a copy of the *Zeej Mahommedſhahy*) convince me, that he will aſcertain, better than I could have done, the point in queſtion.

I. TABLES of the SUN conſiſt of,

1. Mean longitudes of the ſun, and of his apogee, for current years of the *Hejira* from 1141 to 1171 incluſive.

2. Mean motions of the ſun, and of his apogee, for the following periods of *Arabian* years, viz. 30, 60, 90, 120, 150, 180, 210, 240, 270, 300, 600, 900, 1200.

3. Mean motions of the Sun, and of his apogee, for *Arabian* months.

4. The ſame for days from 1 to 31.

5. The ſame for hours, 24 to a natural day; but theſe are continued to 61; ſo that the numbers anſwering to them, taken for the next lower denomination, anſwer for minutes.

6. The ſame for years complete of the *Hejira*, from 1 to 31.

7. The

7. The equation of time.

8. The ſun's equation, or equation of the orbit. Argument, his *mean anomaly*, corrected by the equation of time. If this is in the northern ſigns, the equation is to be ſubtracted from his place corrected by the equation of time; if in the ſouthern, to be added.

9. The ſun's *diſtance*, his *horary motion*, and *apparent* diameter. Argument, his equated anomaly.

II. TABLES of the MOON,

1—6. Contain the mean longitudes and motions of the *Moon*, of her *apogee* and *node*, for the ſame period, as the correſponding tables of the ſun.

7. The moon's firſt *equation*, or *elliptic equation*. Argument, her mean anomaly, corrected by the equation of time, to be applied to her place; corrected by the equation of time, in the ſame manner as the equation of the ſun to his.

8. The moon's *ſecond equation*, is to be applied in three places; viz. to her *longitude* and *apogee*, corrected by the firſt equation and to the node. It has two arguments.

1. From the moon's longitude once equated, ſubtract the ſun's equated place. The ſigns and degrees of this are at the top and bottom of the table.

2. From the moon's place once equated, ſubtract the place of the ſun's apogee. The ſigns and degrees of this are on the right and left of the table.

The equation is found at the interſection of the two arguments. If the ſecond argument is in the firſt half of the zodiac, and the firſt argument in the firſt or fourth quarter, the equation is to be added; in the ſecond or third, to be ſubtracted. But if the ſecond argument is in the ſecond half of the *zodiac*, and the firſt

firſt argument in the firſt or fourth quarter, it is ſubtractive; and in the ſecond or third quarter, it is additive.

9. The moon's *third equation*, has alſo two arguments;

1. From the moon's place, corrected by the ſecond equation, ſubtract the ſun's true longitude; the ſigns and degrees of this are at the top and bottom of the table.

2. The moon's mean anomaly, corrected by the ſecond equation; the ſigns and degrees are on the right and left of the table.

The equation is found at the interſection of the arguments; and is to be applied to the moon's longitude twice equated, by addition or ſubtraction, as expreſſed in the table, to give her true place in the *felek-mayee* or in her *orbit*.

10. Equation of the node.

Argument, the moon's longitude thrice equated, diminiſhed by that of the ſun. The equation is to be added to, or ſubtracted from, the place of the node, as expreſſed in the table.

In the ſame table is a ſecond column, entitled *correction of the node*. The numbers from this is to be reſerved and applied farther on.

11. The moon's fourth equation, or reduction from her *orbit* to the *ecliptic*. From the moon's longitude thrice equated, ſubtract the equated longitude of the node, the remainder is the *argument of latitude*, and this is alſo the argument of the fourth equation; which is to be ſubtracted, if the argument is in the firſt or third quarter, from the moon's place in her *orbit*; and if the argument is in the ſecond or fourth quarter, added to the ſame to give her longitude in the *mumuſſil*, i. e. reduced to the ecliptic.

12. Table of the moon's latitude, contains two columns, *latitude* and *adjuſtment of the latitude*. Both of theſe are to be taken out by the ſigns and degrees of the argument of latitude.

Multiply

Multiply into one another, the correction of the node and the adjuſtment of the latitude, and add the product to the latitude of the moon, as taken out of the table, to give the latitude correct; which is northern if the argument of latitude be in the firſt half of the zodiac, and *vice verſâ*.

III. TABLES of SATURN.

1—6. Contain the mean longitudes and motions of *Saturn*, of his apogee and node, for the ſame periods as the correſponding tables of the Sun and Moon.

7. Firſt equation. Argument *Saturn's* mean anomaly; if in the firſt ſix ſigns, ſubtraction, and *vice verſâ*.

8. Equation of the node. Argument, the argument of latitude, found by ſubtracting the longitude of the node, from that of *Saturn* once equated; additive in the firſt and fourth quarters, ſubtractive in the ſecond and third.

9. *Saturn's* ſecond equation, or reduction of his orbit to the ecliptic. Argument, the corrected argument of latitude or difference between *Saturn's* longitude once equated and the equated longitude of the node. This equation to be added to, or ſubtracted from, the planet's longitude once equated, (or his place in his orbit,) in the ſame caſes as indicated in the correſponding table of the moon.

10. Table of *Saturn's* inclination. Argument, the argument of latitude.

11. Table of *Saturn's* diſtance. Argument, his mean anomaly corrected by the ſecond equation.

IV. TABLES of JUPITER, correſpond with thoſe of *Saturn*, excepting that there is no equation of the node, ſo that they are only ten in number.

V.

V. VI. VII. Tables of MARS, VENUS, and MERCURY, agree in number, denomination, and uſe, with thoſe of *Jupiter*.

For ſeveral parts of the foregoing information, I am indebted to the grandſon of a *Pandit*, who was a principal co-adjutor of *Jayaſinha* in his aſtronomical labours. The Rajah beſtowed on him the title of *Jyotiſh-ray*, or *Aſtronomer-royal*, with a *jageer* which produced 5000 rupees of annual rent. Both of theſe deſcended to his poſterity; but from the incurſions and exactions of the *Mahrattas* the rent of the *jageer* land was annihilated. The young man finding his patrimonial inheritance reduced to nothing, and that ſcience was no longer held in eſtimation, undertook a journey to the *Decan*, in hopes that his talents might there meet with better encouragement; at the ſame time, with a view of viſiting a place of religious worſhip on the banks of the *Nerbuddah*. There he fell in with RUNG RAW APPAH, dewan of the powerful family of POWAR, who was on his march to join ALY-BAHADUR in *Bundelcund*. With this chief the *Pandit* returned, and arrived at *Oujein* while I was there. This young man poſſeſſed a thorough acquaintance with the Hindu aſtronomical ſcience contained in the various *Sid,dhantas*, and that not confined to the mechanical practice of rules, but founded on a geometrical knowledge of their demonſtration; yet he had inherited the ſpirit of *Jayaſinha* in ſuch a degree, as to ſee and acknowledge the ſuperiority of European ſcience. In his poſſeſſion I ſaw the tranſlation into *Sanſcrit* of ſeveral European works, executed under the orders of *Jayaſinha*, particularly EUCLID's *Elements* with the treatiſes of plain and *ſpherical trigonometry*, and on the conſtruction and uſe of logarithms, which are annexed to CUNN's or COMMANDINE's edition. In this tranſlation, the inventor is called *Don* JUAN NAPIER, an additional preſumption that *Jayaſinha's* European aſtronomers were of the Portugueſe nation. This indeed, requires little con-

 firmation,

firmation, as the ſon of one of them, *Don* PEDRO DE SYLVA, is ſtill alive at *Jayanagar*; and *Pedro* himſelf, who was a phyſician as well as aſtronomer, has not been dead more than five or ſix years. Beſides theſe, the *Pandit*, had a table of logarithms and of logarithmic ſines and tangents to ſeven places of figures; and a treatiſe on conic ſections. I have always thought, that after having convinced the Eaſtern nations of our ſuperiority in policy and in arms, nothing can contribute more to the extenſion of our national glory than the diffuſion among them of a taſte for European ſcience. And as the means of promoting ſo deſirable an end, thoſe among the natives who had penetration to ſee, and ingenuouſly to own, its ſuperior accuracy and evidence, ought to be cheriſhed. Among thoſe of the Iſlamic faith, TUFFUZZUL HUSSEIN KHAN, who, by tranſlating the works of the immortal NEWTON, has conducted thoſe imbued with Arabick literature to the fountain of all phyſical and aſtronomical knowledge, is above my praiſe. I hoped that the *Pandit Jyotiſh Ray*, following the ſteps of his anceſtors and of his illuſtrious maſter, might one day render a ſimilar ſervice to the diſciples of *Brahma*. But this expectation was diſappointed by his ſudden death at *Jayanagar* ſoon after our departure from *Oujein:* and with him the genius of *Jayaſinha* became extinct. URANIA fled before the brazen fronted *Mars*, and the obſervatory was converted into an arſenal and foundery of cannon.

The Hindu aſtronomy, from the learned and ingenious diſquiſitions of Mr. BAILY and profeſſor PLAYFAIR, appears to carry internal marks of antiquity which do not ſtand in need of confirmation by collateral evidence. Elſe, it is evident, from the foregoing account, that ſuch could not be derived from the obſervatories which have been deſcribed by travellers; thoſe being

of

of modern date, and as probably of European as of Hindu conſtruction. The aſſiſtance derived by *Jayaſinha* from European books alſo inclines me to think, that the treatiſe entitled *Cſhetraderſa*, which was inſpected by *Captain* WILFORD's *Pandit*, (Aſiat. Reſ. vol. IV. p. 178.) was not confined to geometrical knowledge, of purely *Brahminical origin*.

XVI.

DESCRIPTION *of a Species of* MELOE, *an inſect of the* FIRST *or* COLEOPTEROUS *Order in the* LINNEAN *Syſtem: found in all Parts of* BENGAL, BEHAR, *and* OUDE; *and poſſeſſing all the Properties of the* SPANISH *bliſtering Fly, or* MELOE *Veſicatorius.*

By Captain HARDWICKE,

Communicated by Mr. W. HUNTER.

ANTENNÆ MONILIFORM, ſhort, conſiſting of eleven articulations, increaſing in ſize from the ſecond to the apex; the firſt nearly as long as the laſt; each a little thicker upwards than at the baſe, and truncated, or as it cut off, the laſt excepted, which is egg-form.

Palpi—four, inequaled, clubbed, the poſterior pair of three, and the anterior, of two articulations.

Maxillæ or jaws—four, the exterior horney, ſlightly curved inwards, three toothed—the two inferior teeth very ſmall; the exterior pair compreſſed and bruſh-like.

Head, gibbous; eyes prominent, large, reticulated; labium or upper lip, hard, emarginated.

Thorax—convex above, broader towards the abdomen, and encompaſſed by a narrow marginal line.

Elytra, cruſtaceous, the length of the abdomen, except in flies pregnant with eggs, when they are ſhorter by one ring; convex above, concave beneath; yellow, with three tranſverſe, black, irregular, undulated bands; the one at the apex broadeſt, and that at the baſe dividing the yellow longitudinally, into two ſpots: porcated, or ridged; the ridges longitudinal and parallel,

parallel to the ſuture; in number, three equal, one unequal, the ridges not very prominent.

Alæ or wings—membraneous, a little exceeding the elytra in length, and the ends folded under.

The tarſi of the two firſt pair of feet conſiſts of five articulations; and of the poſterior pair, four only.

Every part of the inſect, excepting the wings and elytra, is black, oily to the touch, and covered more or leſs with denſe hairs; a few ſcattered hairs are alſo evident on the elytra. All the cruſtaceous parts of the inſect are pitted minutely. It is about the bigneſs of the *Meloë Proſcarabæus* of LINN. and a full grown one, when dry and fit for uſe, is to the *M. Veſicatorius* in weight as 4½ to 1.

They come into ſeaſon with the periodical rains, and are found from the month of *July* to the end of *October*, feeding on the flowers of *cucurbitaceous* plants, but more frequently on the ſpecies of *Cucumis* called by the natives *Turiey*; with a cylindrical, ſmooth, ten angled fruit. Alſo on the *Raam Turiey*; or *Hibiſcus Eſculentus Hibiſcus, Roſa Senſis*—and in jungles where theſe plants are not to be found, they are to be met with on two or more ſpecies of *Sida*, which flouriſh in that ſeaſon.

In the failure of flowers, they will feed on the leaves of all theſe plants, except the *Turiey*—which I have not obſerved them eat. They are great devourers, and will feed as freely in confinement as at large.

In September they are full of eggs, which ſeems to be the beſt ſtate in which they can be taken for medical uſe, at that time abounding more abundantly in

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an acrid yellow oil, in which, probably, reſides their moſt active property.

This fluid ſeems the animal's means of rendering itſelf obnoxious to others; for, on the moment of applying the hand to ſeize it, it ejects a large globula from the knee joint of every leg, and this, if ſuffered to dry on the fingers, ſoon produces an uncommon tingling in the part, and ſometimes a bliſter. This is the only inconvenience attending the catching of them, for they make no reſiſtance: on the contrary, they draw in the head towards the breaſt as ſoon as touched, and endeavour to throw themſelves off the plant they are found on.

The female produces about 150 eggs, a little ſmaller than a caraway ſeed, white and oblong oval. Their larvæ I have not ſeen, therefore as yet know not where they depoſit their eggs.

Their flight from plant to plant is ſlow, heavy, and with a loud humming noiſe, the body hanging almoſt perpendicularly to the wings.

They vary in the colour of the elytra, from an orange red to a bright yellow; but, I do not find this variety conſtitutes any difference in ſex.

The natives of this part of the country know the inſect by the name of *tel-eene*, expreſſive of its oily nature: they are acquainted with its bliſtering properties, but I do not find they make any medicinal uſe of it.

The drawing which accompanies this deſcription, exhibits the fly of its natural ſize.

Futte-Ghur, September, 1796.

RE-

REPORT ON THE MELOE, OR LYTTA.

By W. HUNTER, Esq.

The circumstance respecting your new species of MELOE or *Lytta*, which I lately had occasion to observe, was shortly as follows:

Tincture of them was directed as an external application to a man's arm, which was paralytic in consequence of rheumatism. On the first application several vesications were raised, as completely distended with serum, as if a blister had been applied. I am not particularly informed, what proportion the flies bore to the menstruum; but, I think it was something greater than that directed by the *London* college for the tincture of the officinal kind.

March 9th, 1796.

REPORT ON THE EFFECT PRODUCED BY A SPECIES OF MELOE, FOUND IN BENGAL, BEHAR, AND OUDE.

By W. R. MONROE, Esq.

I received your packet containing the specimens of the new blistering fly, a few days ago, whilst I was busily employed in preparations for my departure from this station. I lost no time, however, in making a trial of their efficacy on three different patients who required blistering. They succeeded in each trial; though the effect was in none produced completely in less than ten hours; and the vesications even then were filled with a serum rather gelatinous than fluid.

As far as these few trials authorise a conclusion, we may safely consider them a valuable substitute for the cantharides; though I should think they will not, in general, be found so active as the *Spanish* fly, in its most perfect state of preservation. Captain HARD-

WICKE

WICKE has certainly, however, made a moſt uſeful addition to our *Aſiatick Materia Medica*; and, he may rely on it, that if I ſhould inadvertently mention the diſcovery, I ſhall not fail to give him alſo the merit he is ſo fairly entitled to for it. The country people, I find, give the fly different names, ſo that there are, I ſuppoſe, many ſpecies of it, the moſt efficacious of which he will, in his account of it, particularize.

REFERENCES.

A. A full grown inſect of its natural ſize.

B. The ſame reverſed, to ſhow the under part of the body and limbs.

C. The eggs.

D. An elytron of another fly, to ſhew the difference of colour and ſpots at the baſe.

E. A wing diſplayed.

F. The head magnified.

G. The labium or lip.

H. The horny or exterior jaws.

I. The hairy interior ditto.

K. The poſterior pair or palpi.

L. The anterior or leſſer ditto.

XVII.

A COMPARATIVE VOCABULARY

OF SOME OF THE LANGUAGES SPOKEN IN THE

BURMA EMPIRE.

By FRANCIS BUCHANAN, M. D.

TO judge from external appearance, that is to ſay, from ſhape, ſize, and feature, there is one very extenſive nation that inhabits the eaſt of *Aſia*. It includes the eaſtern and weſtern *Tartars* of the *Chineſe* authors, the *Calmucs*, the *Chineſe*, the *Japoneſe*, the *Malays*, and other tribes inhabiting what is called the Peninſula of *India* beyond the *Ganges*; and the iſlands to the ſouth and eaſt of this, as far at leaſt as *New Guinea*. This, however, is ſpeaking in a very general ſenſe, many foreign races being intermixed with the nation, and, perhaps, many tribes belonging to it being ſcattered beyond the limits I have mentioned.

This nation may be diſtinguiſhed by a ſhort, ſquat, robuſt, fleſhy ſtature, and by features highly different from thoſe of an *European*. The face is ſomewhat in ſhape of a lozenge, the forehead and chin being ſharpened, whilſt at the cheek bones it is very broad: unleſs this be what is meant by the conical head of the *Chineſe*, I confeſs myſelf at a loſs to underſtand what that is. The eyebrows, or ſupercillary ridges, in this nation project very little, and the eyes are very narrow, and placed rather obliquely in the head, the external angles being the higheſt. The noſe is very ſmall, but has not, like that of the negro,

the appearance of having been flattened; and the apertures of the noſtrils, which in the *European* are linear and parallel, in them are nearly circular and divergent; for the *ſeptum marium* being much thickeſt towards the face, places them entirely out of the parallel line. The mouths of this nation are in general well ſhaped; their hair is harſh, lank, and black. Thoſe of them that live even in the warmeſt climates, do not obtain the deep hue of the negro or *Hindu*; nor do ſuch of them as live in the coldeſt countries, acquire the clear bloom of the *European*.

In adventitious circumſtances, ſuch as laws, cuſtoms, government, political maxims, religion, and literature, there is alſo a ſtrong reſemblance among the different ſtates compoſing this great nation; no doubt ariſing from the frequent intercourſe that has been among them.

But it is very ſurpriſing, that a wonderful difference of language ſhould prevail. Language of all adventitious circumſtances, is the ſureſt guide in tracing the migrations and connections of nations; and how in a nation, which bears ſuch ſtrong marks of being one, radically the ſame, languages totally different ſhould prevail, I cannot, at preſent, pretend to conjecture: but, in order to aſſiſt, in accounting for the circumſtance, having, during my ſtay in the *Burma* empire, been at ſome pains to collect a comparative vocabulary of ſuch of the languages ſpoken in it as opportunity offered, I have thought it might be curious to publiſh it. I am ſenſible of its many imperfections: but it is a beginning, which I hope hereafter to make more complete; and, where I fail, others, without doubt, will be more ſucceſsful.

In all attempts to trace the migrations and connections of tribes by means of language, it ought to be carefully remembered, that a few coincidences, obtained by ſearching through the whole extent of two dictionaries, it is by no means

means the leaſt affinity; for our organs being only capable of pronouncing a certain, and that a very limited number of ſounds, it is to be expected, according to the common courſe of chance, that two nations, in a few inſtances, will apply the ſame ſound to expreſs the ſame idea. It ought alſo to be obſerved, that in tracing the radical affinities of languages, terms of art, men's names, religious and law phraſes, are, of all words, the moſt improper; as they are liable conſtantly to be communicated by adventitious circumſtances from one race of men to another. What connection of blood have we, *Europeans*, with the *Jews*, from whom a very great proportion of our names and religious terms are derived? Or what connection have the natives of *Bengal* with the *Arabs* or *Engliſh*, from whom they have derived moſt of their law and political terms? With the former they have not even had political connection; as the phraſes in queſtion were derived to them through the medium of the *Perſians* and *Tartars*. Two languages, therefore, ought only to be conſidered as radically the ſame, when, of a certain number of common words choſen by accident, the greater number have a clear and diſtinct reſemblance. A circumſtance, to which, if antiquarians had been attentive, they would have been ſaved from the greater part of that etymological folly, which has ſo often expoſed their pleaſing ſcience to the juſt ridicule of mankind.

In the orthography I have had much difficulty. Two people will ſeldom write in the ſame way, any word or language with which they are unacquainted. I have attempted merely to convey to the *Engliſh* reader, without any minute attention to accent, or ſmall variations of vowels, a ſound ſimilar to that pronounced; nor have I paid any attention to the orthography of the natives. This, in the *Burma* language, I might have done; but as I am not acquainted with the writing of the other tribes, I thought it the ſafeſt method to expreſs the

the ſound merely. The following ſcheme of vowels, in order to read my vocabulary correctly, muſt be kept in mind:

A—pronounce as in the *Engliſh* words bad, bat, had, hat.

Aw—or broad *Scotch* a, as in bawd.

Ay—as the *Engliſh* a, in babe, bake, bare; day, pay, hay.

Ee—in order to avoid confuſion, I uſe for the *Engliſh* e; as they have exactly the ſame ſound.

E—I uſe for the *French* and *Scotch* é open.

U—I always ſound as in the word duck; uſing oo for its other ſound, as in book.

Ou—I ſound as in found, bound.

Au—is nearly ſimilar, but broader, a ſound ſcarcely to be met with in the *Engliſh* language.

Ei—I uſe as the vowel in bind, find, &c.

Ai—nearly the ſame but broader.

Oe—I uſe to to expreſs the *French* u.

These two ſounds, as far as I remember, are not uſed by the *Engliſh*.

It is to be obſerved, that the pronunciation, among all theſe tribes, to a ſtranger appears exceedingly inarticulate. In particular they hardly ever pronounce the letter R; and T, D, TH, S, and Z, are almoſt uſed indiſcriminately. The ſame may be ſaid of P and B. Thus the word for water which the *Burmas* univerſally pronounce *yoe*, is written *rae*; and the *Palli* name for their capital city *Amarapoora*, is commonly pronounced *Amaapooya*. This indiſtinct pronunciation probably ariſes from the exceſſive quantity of betel, which they chew. No man of rank ever ſpeaks without his mouth being as full as poſſible of a mixture of betel leaf and nut, tobacco, quicklime, and ſpices. In this ſtate he is nearly deprived

deprived of the uſe of his tongue in articulation, which, although not the only organ of ſpeech, is yet of ſuch uſe in articulation, as to be commonly conſidered as ſuch. Hence it is, that an indiſtinct articulation has become faſhionable, even when the tongue is at liberty.

I ſhall begin with the *Burma* language as being at preſent the moſt prevalent. There are four dialects of it, that of the *Burma* proper, that of *Arakan*, that of the *Yo*, and that of *Tenaſerim*.

The people called by us *Burmas*, *Barmas*, *Vermas*, *Brinmas*, &c. ſtile themſelves *Myammaw*. By the people of *Pegu*, they are named *Punmay*; by the *Karaya*, *Yoo*; by the people of *Caſſay*, *Awaw*; by the *Caſſay ſhan*, *Kammau*; by the *Chineſe* of *Yunnan*, *Laumeen*; and by the *Aykobat*, *Anwa*. They eſteem themſelves to be deſcended from the people of *Arakan*, whom they often call *Myammaw gyee*, that is to ſay, great *Burmas*.

The proper natives of *Arakan*, call themſelves *Yakain*, which name is alſo commonly given to them by the *Burmas*. By the people of *Pegu* they are named *Takain*. By the *Bengal Hindus*, at leaſt by ſuch of them as have been ſettled in *Arakan*, the country is called *Roſſawn*, from whence, I ſuppoſe, Mr. RENNELL has been induced to make a country named *Roſhawn* occupy part of his map, not conceiving that it would be *Arakan*, or the kingdom of the *Mugs*, as we often call it. Whence this name of *Mug*, given by *Europeans* to the natives of *Arakan*, has been derived, I know not; but, as far as I could learn, it is totally unknown to the natives and their neighbours, except ſuch of them as by their intercourſe with us have learned its uſe. The *Mahommedans* ſettled at *Arakan*, call the country *Rovingaw*, the *Perſians* call it *Rekan*.

The

The third dialect of the *Burma* language is ſpoken by a ſmall tribe called *Yo*. There are four governments of this nation, ſituated on the eaſt ſide of the *Arakan* mountains, governed by chiefs of their own, but tributary to the Burmas.

The fourth dialect is that of what we call the coaſt of *Tenaſſerim*, from its city now in ruins, whoſe proper name was *Tanayntharee*. Theſe people, commonly called by the *Burmas*, *Dawayza* and *Byeitza*; from the two governments, of which their country conſiſts, have moſt frequently been ſubjected to *Siam* or *Pegu*; but at preſent they are ſubjects of the *Burma* king.

Although the dialects of theſe people, to one another, appear very diſtinct, yet the difference conſiſts chiefly in ſuch minute variations of accent as not to be obſervable by a ſtranger. In the ſame manner as an *Engliſhman* at firſt is ſeldom able to diſtinguiſh even the *Aberdeen* accent from that of the other ſhires of Scotland, which to a Scotchman appears ſo different; ſo, in moſt caſes, I could perceive no difference in the words of theſe four languages, although among the *Burmas*, any of the provincials, ſpeaking generally, produced laughter, and often appeared to be with difficulty underſtood. I ſhall, therefore, only give a liſt of the *Burma* words; thoſe of the other dialects are the ſame, where difference is not mentioned.

I. *Engliſh.*	*Myammaw.*	*Yakain.*	*Tanayntharee.*	*Yo.*
1 Sun	Nay	—	—	—
2 Moon	La	—	—	—
3 Star	Kyee	Kyay	—	Kay
4 Earth	Myacgyee	—	—	—
5 Water	Yæ	Ree	—	Rae

6 Fire

English.	*Myammaw.*	*Yakain.*	*Tanayntharee.*	*Yo.*
6 Fire	Mee	—	—	—
7 Stone	Kiouk	—	—	Kioukay
8 Wind	Læ	Lee	—	—
9 Rain	Mo	—	—	—
10 Man	Loo	—	—	—
11 Woman	Meemma	—	—	—
12 Child	Loogalay	*Looſhee	—	—
13 Head	Kaung	—	—	—
14 Mouth	Parat	—	—	—
15 Arm	Læmmaung	—	—	—
16 Hand	Læk	—	—	Laik
17 Leg	Kæthalour	—	—	Saloongſa
18 Foot	Kiæbamo	—	—	—
19 Beaſt	Taraitram	—	—	—
20 Bird	Hugæk	—	—	Knap
21 Fiſh	Ngaw	—	—	—
22 Good	Kaung	—	—	—
23 Bad	Makaung	—	—	—
24 Great	Kyee	—	—	—
25 Little	Ngay	—	—	—
26 Long	Shay	—	—	Shæ
27 Short	Ato	—	—	To
28 One	Teet	—	—	—
29 Two	Hueet	—	—	—
30 Three	Thoum	—	—	—
31 Four	Lay	—	—	—

* Literally, a little man.

Engliſh.	*Myammaw.*	*Yakain.*	*Tanayntharee.*	*Yo.*
32 Five	Ngaw	—	—	—
33 Six	Kiouk	—	—	—
34 Seven	Kuhneet	—	—	—
35 Eight	Sheet	—	—	—
36 Nine	Ko	—	—	—
37 Ten	Tazay	—	—	—
38 Eat	Zaw	—	—	—
39 Drink	Thouk	—	—	—
40 Sleep	Eit	—	—	—
41 Walk	Xleen	Hlay	—	Hlay
42 Sit	Tein	—	—	—
43 Stand	Ta	Mateinay	—	Mateenahay
44 Kill	That	Sot	—	Aſatu
45 Yes	Houkkay	—	—	—
46 No	Mahouppoo	—	—	—
47 Here	Deemaw	—	—	Thaman
48 There	Homaw	—	—	—
49 Above	Apomaw	—	—	Apobau
50 Below	Houkmaw	—	—	Auk

The next moſt prevalent language in *India* beyond the *Ganges*, is what we call the *Siammeſe*, a word probably corrupted from the *Shan* of the *Burmas*. The *Siammeſe* race occupies the whole frontier of *Yunan*, extending on the eaſt to *Tonquin* and *Cochinchina*, and on the ſouth, down to the ſea. It contains many ſtates or kingdoms, moſtly ſubject or tributary to the *Burmas*. I have only procured vocables of three of its dialects, which I here give compleat, as they differ conſiderably.

The

The firſt dialect is that of the kingdom of *Siam*, the moſt poliſhed people of eaſtern *India*. They called themſelves to me ſimply *Tai*; but Mr. LOUBERE ſays, that in order to diſtinguiſh themſelves from a people to be afterwards mentioned, they add the word *Nay*, which ſignifies little. By the *Burmas*, from the vulgar name of their former capital city, they are called *Yoodaya*; by the people of *Pegu* they are named *Seem*; and by the *Chineſe* of *Yunan*, *Syiando* or *Kyænlo*.

The ſecond dialect of the *Siammeſe* language which I ſhall mention, is that of a people, who, to me, alſo called themſelves ſimply *Tai*. I believe, however, they are the *Tai-yay*, or great *Tai*, of Mr. LOUBERE. They have been long ſubject to the *Burmas*, who call them *Myelapſhan*; by the people of *Pegu* they are named *Sawn*; *Thay* by the *Karayn*; *Looktai* by the *Katheeſhan*; *Kabo* by the people of *Kathee* or *Cuſſay*; *Pawyee* by the *Chineſe*; and to me they were named *Lau* by the *Siammeſe* proper. Their country towards the north lies between the weſt ſide of *Yunan* and the *Erawade* or great *Burma* river, deſcending down its eaſtern bank a conſiderably way; it then extends along the ſouth ſide of *Yunan* till it comes to the *Loukiang* or river of *Martaban*, which forms its eaſtern boundary; on the ſouth it extends to no great diſtance from *Martaban*; and on the weſt it is ſeparated from *Burma* proper by a chain of mountains, that paſs about fifteen miles to the eaſt of *Ava*.

The third dialect of the *Siammeſe* language is that of a people called, by the *Burmas*, *Kathee Shawn*; to themſelves they aſſume the name of *Tai-loong* or great *Tai*. They are called *Moitay Kabo*, by the *Kathee* or people of *Cuſſay*. They inhabit the upper part of the *Kiaynduayn* river, and from that weſt to the *Erawade*. They have, in general, been ſubject to the king of *Munnypura*; but, at preſent, are tributary to the *Burma* monarch.

II. *Engliſh.*	*Tainay.*	*Taiyay.*	*Tai-loong.*
1 Sun	Roen	Kawan	Kangoon
2 Moon	Sun	Loen	Noon
3 Stars	Dau	Lau	Nau
4 Earth	Deen	—	Neen
5 Water	Nam	Nawh or Naum	Nam
6 Fire	Fai	Fai	Pui
7 Stone	Hin	—	Heen
8 Wind	Lam	Loum	Loom
9 Rain	Fon	Foon	Poon
10 Man	Kon	Kon	Koon
11 Woman	Pooen	Paeyen	Pawneen
12 Child	Daeknooe	Lawen	Lookwoon
13 Head	Seeza	Ho	Hoo
14 Mouth	Pawk	Tſop	Pawk
15 Arm	Kayn	Komooee	Moo
16 Hand	Moo	Mooee	Pawmoo
17 Leg	Naung	Koteen	Hooko
18 Foot	Langteen	Swateen	Lungdin
19 Beaſt	Sawt	—	Nook
20 Bird	Noup	Naut	Nook
21 Fiſh	Plaw	Paw	Paw
22 Good	Dee	Lee	Wanoo
23 Bad	Maidee	Malee	Mowan
24 Great	To	Loung	Loong
25 Little	Layt	Laik	Unleek
26 Long	Yan	Yan	Anyou
27 Short	San	Lot	Unlot

English.	*Tai-nay.*	*Tai-yay.*	*Tai-loong.*
28 One	Noong	Noo	Aning
29 Two	So	Sang	Sowng
30 Three	Sam	Sam	Sam
31 Four	See	Shee	Shee
32 Five	Haw	Haw	Haw
33 Six	Hok	Houk	Hook
34 Seven	Kyæt	Sayt	Seet
35 Eight	Payt	Payt	Pæt
36 Nine	Kawo	Kaw	Kau
37 Ten	Seet	Sheet	Ship
38 Eat	*Kyeen Kau	Kyeen Kau	Kyeen Kau
39 Drink	Kyeen Nam	Kyeen Nawm	Kyeen Nam
40 Sleep	Non	Non	Non
41 Walk	Teeo	Hoe	Pei
42 Sit	Nanon	Nawn	Nung
43 Stand	Yoon	Lootſook	Peignung
44 Kill	Kaw	Po	Potai
45 Yes	O	Sai	Munna
46 No	Maiſhai	Moſai	Motſau
47 Here	Teenee	Teenai	Teenay
48 There	Teenon	Teepoon	Ponaw
49 Above	Bonon	Teenaipoon	Nooa
50 Below	Kang lang	Teetai	—

The next language, of which I ſhall give a ſpecimen, is that of the people who call themſelves *Moitay*. Their country is ſituated between *Sylhet* in *Bengal*

* Kau is rice, and Nam is water. Here, therefore, we have a nation with no word to expreſs the difference between eating and drinking. The pleaſures of the table muſt be in little requeſt with them.

and

and that of the *Tai-loong* above mentioned: to the north of it is *Aſſam*; on the ſouth *Arakan*, and the rude tribes bordering on that kingdom. Their capital city they name *Munnypura*. By the people of *Bengal* they are called *Muggaloos*, an appellation with which thoſe we ſaw at *Amarapura* were totally unacquainted. This name, however, *Europeans* have applied to the country, turning it at the ſame time into *Meckley*. *Kathee* is the name given to this people by the *Burmas*, which we alſo have taken for the name of the country, and corrupted into *Cuſſay*. Mr. RENNEL having from *Bengal* obtained information of *Meckley*, and from *Ava* having heard of *Cuſſay*, never conceived that they were the ſame, and, accordingly, in his map of *Hinduſtan*, has laid down two kingdoms *Cuſſay* and *Meckley*; for which, indeed, he had ſufficient room, as by Captain BAKER's account he had been induced to place *Ava* much too far to the eaſt.

III. *Engliſh.*	*Moitay.*	*Engliſh.*	*Moitay.*
1 Sun	Noomeet	13 Head	Kop Kok
2 Moon	Taw	14 Mouth	Seembaw
3 Stars	Towang Meezat	15 Arm	Pambom
4 Earth	Leipauk	16 Hand	Khoit
5 Water	Eeſheen	17 Leg	—
6 Fire	Mee	18 Foot with the ankle	Kho
7 Stone	Noong Loong	19 Beaſt	—
8 Wind	Nooſheet	20 Bird	Ooſaik
9 Rain	No	21 Fiſh	Ngaw
10 Man	Mee	22 Good	Pawee or Pai
11 Woman	Noopee	23 Bad	Pattay
12 Child	Peeka	24 Great	Sauwee
			25 Little

Engliſh.	*Moitay.*	*Engliſh.*	*Moitay.*
25 Little	Apeekauk	38 Eat	Sat
26 Long	Aſamba	39 Drink	Tawee
27 Short	Ataymba	40 Sleep	Keepee
28 One	Amaw	41 Walk	Kwnee
29 Two	Anee	42 Sir	Pummee
30 Three	Ahoom	43 Stand	Lapee
31 Four	Maree	44 Kill	Hallo
32 Five	Mangaw	45 Yes	Manee
33 Six	Torok	46 No	Nattay
34 Seven	Tarayt	47 Here	Maſhee
35 Eight	Neepaw	48 There	Ada
36 Nine	Mapil	49 Above	Mataka
37 Ten	Tarraw	50 Below	Maka

In the intermediate ſpace between *Bengal*, *Arakan*, the proper *Burma*, and the kingdom of *Munnaypura*, is a large mountainous and woody tract. It is occupied by many rude tribes. Among theſe, the moſt diſtinguiſhed, is that by the *Burmas* called *Kiayn*, from whom is derived the name of the great weſtern branch of the *Erawade*, for *Kiaynduayn* ſignifies the fountain of the *Kiayn*. This people calls itſelf *Koloun*, and it ſeems to be a numerous race, univerſally ſpoken of, by its neighbours, as remarkable for ſimple honeſty, induſtry, and an inoffenſive diſpoſition.

IV. *Engliſh.*	*Koloun.*	*Engliſh.*	*Koloun.*
1 Sun	Konee	4 Earth	Day
2 Moon	Klow	5 Water	Tooee
3 Star	Aſſay	6 Fire	May

7 Stone

Engliſh.	*Koloun.*	*Engliſh.*	*Koloun.*
7 Stone	Aloong	29 Two	Palmee
8 Wind	Klee	30 Three	Patoon
9 Rain	Yoo	31 Four	Poonhee
10 Man	Kloun	32 Five	Poonho
11 Woman	Patoo	33 Six	Pooſouk
12 Child	Saemee	34 Seven	Pooæſæ
13 Head	Mulloo	35 Eight	Pooæſay
14 Mouth	Mawkoo	36 Nine	Poongo
15 Arm	Maboam	37 Ten	Poohaw
16 Hand	Mukoo	38 Eat	Kayawæ
17 Leg	Manwam	39 Drink	Koyawee
18 Foot	Kopaung	40 Sleep	Eitſha
19 Beaſt	Pakyoo	41 Walk	Hlayæſhoe
20 Bird	Pakyoo	42 Sit	Own
21 Fiſh	Ngoo	43 Stand	Undoon
22 Good	Poælahoe	44 Kill	Say,oe
23 Bad	Sælahoe	45 Yes	Aſhæba
24 Great	Ahlayn	46 No	Seehay
25 Little	Amee	47 Here	Næa
26 Long	Aſaw	48 There	Tſooa
27 Short	Sooæhay	49 Above	Akloengung
28 One	Moo	50 Below	Akoa

Another rude nation, which ſhelters itſelf in the receſſes of hills and wood, from the violence of its inſolent neighbours, is named by the *Burmas Karayn*; and *Kadoon* by the people of *Pegu*. They are moſt numerous in the *Pegu* kingdom, and like the *Kiayn*

are

are diſtinguiſhed for their innocence and induſtry. By the *Burmas* they are ſaid to be of two kinds; *Burma* and *Talain Karayn*. Some of them, with whom I converſed, ſeemed to underſtand this diſtinction, calling the former *Paſſooko* and the latter *Maploo*. This, however, probably aroſe from theſe individuals being better acquainted with the *Burma* ideas, than the generality of their countrymen; for the greater part of thoſe, with whom I converſed, ſaid that all *Karyn* were the ſame, and called them *Play*. I am, however, not certain if I underſtood them rightly; nor do I know, that I have obtained the proper name of this tribe. I have given a vocabulary of each of theſe, who ſeemed to underſtand the diſtinction of *Burma* and *Tailain Karayn*, and two of different villages who did not underſtand the difference; for in this nation I found the villages differing very much in dialect; even where not diſtant, probably owing to their having little communication one with another. It muſt be obſerved, that in uſing an interpreter, one is very liable to miſtakes, and thoſe I had were often very ignorant.

V. *Engliſh.*	*Paſſooko.*	*Maploo.*	*Play, No.* 1.	*Play, No.* 2.
1 Sun	Moomay	Moo	Mooi	Moomay
2 Moon	Law	Law	Law	Poolaw
3 Stars	TSaw	Sheeaw	Shaw	Shaw
4 Earth	Katchaykoo	Kolangkoo	Kako	Laukoo
5 Water	Tee	Tee	Tee	Tee
6 Fire	Mee	Meeung	Meea	Mee
7 Stone	Loe	Loong, Noong-Lung—		Loung
8 Wind	Kallee	Lee	Lee	Lee
9 Rain	Tachoo	Tchatchang	Moko	Moko
10 Man	Paganyo	Paſhaw	Paſha	Paploom or Paſha
11 Woman	Pomoo	Pomoo	Pummee	Pammoe

English.	*Paſſooko.*	*Maploo.*	*Play, No. 1.*	*Play, No. 2.*
12 Child	Pozaho	Poſſaw	Napootha	Apoza
13 Head	Kozohui	Kohui	Kohui	Pokoohui
14 Mouth	Patako	Pano	Ganoo	Pano
15 Arm	Tchoobawlee	Tchoobawlee	Atſyoodoo	Tchoobawlee
16 Hand	Patchoo	Poitchoo	Kutſhoo	Tchooaſee
17 Leg	Kadoe	Pokaw	Kandoo	Kandoo
18 Foot	Konyawko	Kanyakoo	Kanyako	Kanyaſaw
19 Beaſt	T'hoo	Too	—	—
20 Bird	T'hoo	Too	Kalo	To
21 Fiſh	Nyaw	Zyaw	Ya	Ya
22 Good	Ngeetchaw maw	Ngee	Gyee	Gyee
23 Bad	Taw ngee baw	Nguay	Gyeeay	Gyeeay
24 Great	Pawdoo	Hhoo	Uddo	Doo
25 Little	Tchecka	Tchei	Atſei	Atſee
26 Long	To atcho maw	T'ho	Loeya	Ato
27 Short	P'hecko	P'hoe	Apoe	Apoe
28 One	Taydoe	Nadoe	Laydoe	Laydoe
29 Two	Kee-doe	Nee-doe	Nee-doe	Nee-doe
30 Three	So-doe	Song-doe	Soung-doe	Soung-doe
31 Four	Looee-doe	Lee-du	Lee-doe	Lee-doe
32 Five	Yay-doe	Yay-doe	Yay-doe	Yay-doe
33 Six	Hoo-doe	Hoo-doe	Koo-doe	Koo-doe
34 Seven	Nooee-doe	Noay-doe	Noæ-doe	Noæ-du
35 Eight	Ho-doe	Ho-doe	Ko-doe	Ko-doe
36 Nine	Kooee-doe	Kooee-doe	Kooee-doe	Kooee-doe
37 Ten	Tatchee	Leitchee	Taſſee	Laytſee
38 Eat	Po, o	Aw	Ang	Ang

39 Drink

Engliſh.	*Paſſoke.*	*Maploo.*	*Play, No.* 1.	*Play, No.* 2.
39 Drink	Oo	O	O	O
40 Sleep	Prammee	Mee	Mee	Mee
41 Walk	Latcholia	Leetalay	Rakuæ	Lakuæ
42 Sit	Tcheenaw	Tſeingaw	Tyſana	Tſayna
43 Stand	Tchocto	Tchonto	Tſayna lagay	Gnaythoe
44 Kill	Klo	P'hee	Pætegui	Paythee
45 Yes	Maylee	Moayyoo	Moiyoo	Moithay
46 No	Tamay baw	Moæ	Moi	Moi
47 Here	Loeee	Layee	Leyoo	Layee
48 There	Lubanee	Loo	Læyo	Læyo
49 Above	Mokoo	Mokoo	Læpanko	Læpanko
50 Below	Hokoo	Lankoo	Læpaula	Læpaula

To this kingdom, the natives of which call themſelves *Moan*, we have given the name of *Pegu*, a corruption of the vulgar appellation of its capital city *Bagoo*; the polite name of the city among its natives having been *Dam Hanga*, as among the *Burmas Hanzawade*. This people are named *Talain* by the *Burmas* and *Chineſe* of *Yunan*; *Lawoo* by the *Karayn*; and *Tarain* by the *Tailoong*: their kingdom extends along the mouths of the two great rivers *Erawade* and *Thauluayn*, or of *Ava* and *Martaban*, from the frontiers of *Arakan* to thoſe of *Siam*.

VI. *Engliſh.*	*Moan.*	*Engliſh.*	*Moan.*
1 Sun	Knooay Tangooay	5 Water	Nawt
2 Moon	Katoo	6 Fire	Komot
3 Stars	Shawnaw	7 Stone	—
4 Earth	Toe	8 Wind	Kyeaw

9 Rain

English.	*Moan.*	*English.*	*Moan.*
9 Rain	Proay	31 Four	Pou
10 Man	Puee	32 Five	Soon
11 Woman	Preau	33 Six	Teraw
12 Child	Koon	34 Seven	Kapo
13 Head	Kadap	35 Eight	Tatſam
14 Mouth	Paun	36 Nine	Kaffee
15 Arm	Toay	37 Ten	Tſo
16 Hand	Kanna Toay	38 Eat	Tſapoung. Poung, I believe, is rice.
17 Leg	Kadot-prawt		
18 Foot	Kanat zein	39 Drink	Saung nawt. Nawt is water
19 Beaſt	—		
20 Bird	Seen ngat	40 Sleep	Steik
21 Fiſh	Kaw	41 Walk	Au
22 Good	Kah	42 Sit	Katcho
23 Bad	Hookah	43 Stand	Katau
24 Great	Mor	44 Kill	Taw
25 Little	Bok	45 Yes	Taukua
26 Long	Kloein	46 No	Auto
27 Short	Klee	47 Here	Noomano
28 One	Mooi	48 There	Taoko
29 Two	Bau	49 Above	Tatoo commooee
30 Three	Pooi	50 Below	Tauamo

Theſe ſix are all the languages of this great *eaſtern* nation, of which, during my ſtay in the *Burma* empire, I was able to procure vocables ſufficient for my purpoſe. Although they appear very different at firſt ſight, and the language of

of one race is totally unintelligible to the others; yet I can perceive in them all ſome coincidences, and a knowledge of the languages, with their obſolete words, their phraſes, their inflections of words; and eliſions, *euphoniæ cauſa*, would, perhaps, ſhew many more. Thoſe that have the greateſt affinity are in Tab. I. IV. and V. Mr. GILCHRIST, whoſe knowledge of the common dialects in uſe on the banks of the *Ganges* is, I believe, exceeded by that of no *European*, was ſo obliging as to look over theſe vocabularies, but he could not trace the ſmalleſt relation between the languages.

I ſhall now add three dialects, ſpoken in the *Burma* empire, but evidently derived from the language of the *Hindu* nation.

The firſt is that ſpoken by the *Mohammedans*, who have been long ſettled in *Arakan*, and who call themſelves *Rooinga*, or natives of *Arakan*.

The ſecond dialect is that ſpoken by the *Hindus* of *Arakan*. I procured it from a *Bráhmen* and his attendants, who had been brought to *Amarapura* by the king's eldeſt ſon, on his return from the conqueſt of *Arakan*. They called themſelves *Roſſawn*, and, for what reaſon I do not know, wanted to perſuade me that theirs was the common language of *Arakan*. Both theſe tribes, by the real natives of *Arakan*, are called *Kulaw Yakain*, or ſtranger *Arakan*.

The laſt dialect of the *Hinduſtance* which I ſhall mention is, that of a people called by the *Burmas Aykobat*, many of whom are ſlaves at *Amarapura*. By one of them I was informed, that they called themſelves *Banga*; that formerly they had kings of their own, but that, in his father's time, their kingdom had been overturned by the king of *Munnypura*, who carried away a great part of the inhabitants to his reſidence. When that

was

was taken laſt by the *Burmas*, which was about fifteen years ago, this man was one of the many captives who were brought to *Ava*. He ſaid alſo, that *Banga* was ſeven days journey ſouth weſt from *Munnypura*; it muſt, therefore, be on the frontiers of *Bengal*, and may, perhaps, be the country called in our maps *Caſhar*.

Mr. *Gilchriſt* has been ſo good as to examine particularly theſe two dialects, and to mark thus (*) thoſe words, which come neareſt the *Hinduſtanee* ſpoken on the *Ganges*; and thus (†) thoſe not ſo evidently in connection with the ſame, but which ſhew reſemblance by analogy.

Engliſh.	*Rooinga.*	*Roſſawn.*	*Banga.*
1 Sun	Bel	*Sooja	Bayllee
2 Moon	Sawn	Sundſa	Satkan
3 Stars	Tara	*Nokyoto	*Tara
4 Earth	Kool	Murtika	*Matee
5 Water	Pannæ	*Dſol	*Pannæ
6 Fire	Auin	*Aaganee	Zee
7 Stone	Sheel	*Sheel	*Heel
8 Wind	Bau	*Pawun	*Bo
9 Rain	Jorail	†Biſtee	*Booun
10 Man	Manuſh	†Moonuſa	*Manoo
11 Woman	Meealaw	Stree	Zaylan
12 Child	Gourapa	*Balouk	Sogwo
13 Head	Mata	Muſtok	Teekgo
14 Mouth	Gall	Bodon	Totohan

15 Arr

English.	*Rooinga.*	*Rossawn.*	*Bangæ.*
15 Arm	Bahara	*Baho	Paepoung
16 Hand	Hat	Ofto	Hatkan
17 Leg	Ban	†Pode	Torooa
18 Foot	Pau	Pata	Zankan
19 Beaft	—	Zoomtroo	Safee fangee
20 Bird	Paik	†Pookyee	†Pakya
21 Fifh	Maws	Mootfæ	†Mas
22 Good	Goom	Gam	Hoba
23 Bad	Goom nay	Gumnay	Hoba nay
24 Great	Boddau	Dangor	Domorg
25 Little	Thuddee	*Tfooto	Hooroogo
26 Long	Botdean	Deengol	Deengul
27 Short	Banick	*Batée	*Batee
28 One	Awg	*Aik	*Ak
29 Two	Doo	*Doo	De
30 Three	Teen	*Teen	*Teen
31 Four	Tchair	*Tfar	*Saree
32 Five	Panfoee	*Paus	*Pas
33 Six	Saw	*Tfo	*Tfæ
34 Seven	Sat	*Sat	*Hat
35 Eight	Awtoa	†Afto	*Awt
36 Nine	Nonaw	*No	*No
37 Ten	Dufloa	*Dos	*Dos
38 Eat	Kau	*Kawai	†Kæk
39 Drink	Karin	Kawo	†Peek

40 Sleep

English.	*Rooinga.*	*Roſſawn.*	*Banga.*
40 Sleep	Layrow	†Needſara	Hooleek
41 Walk	Pawkay	Bayra	†O-teea-ootea
42 Sir	Boihow	†Boeſho	†Bo
43 Stand	Tcheilayto	*Karao	†Oot
44 Kill	Marim	*Maro	*Mar
45 Yes	Hoi	Oir	Oo
46 No	Etibar	*Noay	*Naway
47 Here	Hayray	Etay	Erang
48 There	Horay	Horay	Orung
49 Above	Ouchalo	*Ooper	Gos
50 Below	Ayray	Hayray	†Tol

XVIII. ON

XVIII.

ON THE CHRONOLOGY OF THE HINDUS.

BY CAPTAIN FRANCIS WILFORD.

THE accompanying genealogical table is faithfully extracted from the VISHNU *purána*, the BHA'GAVAT, and other *puránas*, without the leaſt alteration whatever. I have collected numerous MSS. and with the aſſiſtance of ſome learned *Pundits* of *Benares*, who are fully ſatisfied of the authenticity of this table, I exhibit it as the only genuine chronological *record* of Indian hiſtory that has hitherto come to my knowledge. It gives the utmoſt extent of the chronology of the *Hindus*; and as a certain number of years only can be allowed to a generation, it overthrows at once their monſtrous ſyſtem, which I have rejected as abſolutely repugnant to the courſe of nature, and human reaſon.

Indeed their ſyſtems of geography, chronology, and hiſtory, are all equally monſtrous and abſurd. The circumference of the earth is ſaid to be 500,000,000 *yojanas*, or 2,456,000,000 Britiſh miles: the mountains are aſſerted to be 100 *yojanas*, or 491 Britiſh miles high. Hence the mountains to the ſouth of *Benares* are ſaid, in the *puránas*, to have kept the holy city in total darkneſs, till *Matra-deva* growing angry at their inſolence, they humbled themſelves to the ground, and their higheſt peak now is not more than 500 feet high. In *Europe* ſimilar notions once prevailed; for we are told that the *Cimmerians* were kept in continual darkneſs by the interpoſition of immenſely high mountains. In the CA'LICA *purána*, it is ſaid that the mountains have ſunk conſiderably, ſo that the higheſt is not above one *yojana*, or five miles high.

When the *Puranics* ſpeak of the kings of ancient times, they are equally extravagant. According to them, king YUDHISHT'HIR reigned ſeven and twenty thouſand years; king NANDA, of whom I ſhall ſpeak more fully hereafter, is ſaid to have poſſeſſed in his treaſury above 1,584,000,000 pounds ſterling, in gold coin alone: the value of the ſilver and copper coin, and jewels, exceeded all calculation; and his army conſiſted of 100,000,000 men. Theſe accounts geographical, chronological, and hiſtorical, as abſurd and inconſiſtent with reaſon, muſt be rejected. This monſtrous ſyſtem ſeems to derive its origin from the ancient period of 12,000 natural years, which was admitted by the *Perſians*, the *Etruſcans*, and, I believe, alſo by the *Celtic* tribes; for we read of a learned nation in *Spain*, which boaſted of having written hiſtories of above ſix thouſand years.

The *Hindus* ſtill make uſe of a period of 12,000 divine years, after which a periodical renovation of the world takes place. It is difficult to fix the time when the *Hindus*, forſaking the paths of hiſtorical truth, launched into the mazes of extravagance and fable. MEGASTHENES, who had repeatedly viſited the court of CHANDRA GUPTA, and of courſe had an opportunity of converſing with the beſt informed perſons in *India*, is ſilent as to this monſtrous ſyſtem of the *Hindus*: on the contrary, it appears, from what he ſays, that in his time they did not carry back their antiquities much beyond ſix thouſand, or even five thouſand years, as we read in ſome MSS. He adds alſo, according to CLEMENS of *Alexandria*, that the *Hindus* and the *Jews* were the only people, who had a true idea of the creation of the world, and the beginning of things. There was then an obvious affinity between the chronological ſyſtems of the *Jews* and the *Hindus*. We are well acquainted with the pretenſions of the *Egyptians* and *Chaldeans* to antiquity. This they never attempted to conceal.

It

It is natural to ſuppoſe, that the *Hindus* were equally vain: they are ſo now; and there is hardly a *Hindu* who is not perſuaded of, and who will not reaſon upon, the ſuppoſed antiquity of his nation. MEGASTHENES who was acquainted with the antiquities of the *Egyptians*, *Chaldeans*, and *Jews*, whilſt in *India*, made enquires into the hiſtory of the *Hindus*, and their antiquity: and it is natural to ſuppoſe that they would boaſt of it as well as the *Egyptians* or *Chaldeans*, and as much then as they do now. Surely they did not invent fables to conceal them from the multitude, for whom on the contrary theſe fables were framed.

At all events, long before the ninth century the chronological ſyſtem to the *Hindus* was as complete, or rather, perfectly the ſame as it is now; for ALBUMAZAR, who was contemporary with the famous ALMAMUN, and lived at his court at *Balac* or *Balkh*, had made the *Hindu* antiquities his particular ſtudy. He was alſo a famous aſtronomer and aſtrologer, and had made enquiries reſpecting the conjunctions of the planets, the time of the creation of the world, and its duration, for aſtrological purpoſes; and he ſays, that the *Hindus* reckoned from the Flood to the *Hejira* 720,634,442,715 days, or 3725 years *. Here is a miſtake, which probably originates with the tranſcriber or tranſlator, but it may be eaſily rectified. The firſt number, though ſomewhat corrupted, is obviouſly meant for the number of days from the creation to the *Hejira*; and the 3725 years are reckoned from the beginning of the *Cali-yug* to the *Hejira*. It was then the opinion of ALBUMAZAR, about the middle of the ninth century, that the æra of the *Cali-yug* coincided with that of the Flood. He had, perhaps, data which no longer exiſt, as well as ABUL-FA-

* See *Bailly's* Aſtron. Anc. p. 30. and Mr. *Davis's* Eſſay in the ſecond volume of the Aſiatick Reſearches, p. 274.

ZIL in the time of AKBAR. Indeed, I am ſometimes tempted to believe, from ſome particular paſſages in the *Puránas*, which are related in the true hiſtorical ſtyle, that the *Hindus* have deſtroyed, or at leaſt deſignedly conſigned to oblivion, all genuine records, as militating againſt their favourite ſyſtem. In this manner the *Romans* deſtroyed the books of NUMA, and conſigned to oblivion the hiſtorical books of the ETRURIANS, and I ſuſpect alſo thoſe of the TURDETANI in *Spain*.

The *Puráns* are certainly a modern compilation from valuable materials, which I am afraid no longer exiſt: an aſtronomical obſervation of the heliacal riſing of *Canopus*, mentioned in two of the *Puránas*, puts this beyond doubt. It is declared there, that certain religious rites are to be performed on the 27th of *Bhádra*, when *Canopus*, diſengaged from the rays of the ſun, becomes viſible. It riſes now on the 18th of the ſame month. The 18th and 27th of *Bhádra* anſwer this year to the 29th of Auguſt and 7th of September. I had not leiſure enough to conſult the two *Puránas* above mentioned on this ſubject. But as violent diſputes have obtained among the learned Pandits, ſome inſiſting that theſe religious rites ought to be performed on the 27th of *Bhádra*, as directed in the *Puránas*, whilſt others inſiſt, it ſhould be at the time of the *udáya*, or appearance of *Canopus*; a great deal of paper has been waſted on this ſubject, and from what has been written upon it, I have extracted the above obſervations. As I am not much uſed to aſtronomical calculations, I leave to others better qualified than I am to aſcertain from theſe data the time in which the *Puránas* were written.

We learn from MANETHO, that the *Egyptian* chronology enumerated fourteen *dynaſties*, the particulars of which he omitted as unworthy of notice. In the ſame manner the *Hindu* chronology preſents us with a ſeries of four-

fourteen Dynaſties, equally repugnant to nature and reaſon; ſix of theſe are elapſed, we are in the ſeventh, which began with the Flood, and ſeven more we are taught to expect. Theſe fourteen Dynaſties are hardly ever noticed by the *Hindus* in their legendary tales, or hiſtorical poems. The rulers of theſe Dynaſties are called MENUS: and from them their reſpective Dynaſty, *antara*, or period, is called a *Manwantara*. Every Dynaſty ends with a total deſtruction of the human race, except the *Menu* or ruler of the next period, who makes his eſcape in a boat, with the ſeven *Rĭ-ſhis*. The ſame events take place; the ſame perſons, though ſometimes under different names, re-appear.

Thus the hiſtory of one Dynaſty ſerves for all the reſt. In reality hiſtory, according to the *Hindus* themſelves begins with the Flood, or the ſeventh *Menu*. Each period conſiſts of 12,000 years, which the *Hindus* call *divine*. The *Perſians* are not unacquainted with theſe renovations of the world, and periods of 12,000 years; for the bird *Simurgh* is introduced, telling CAHERMAN that ſhe had lived to ſee the earth ſeven times filled with creatures, and ſeven times a perfect void, (it ſhould be ſix times a perfect void, for we are in the ſeventh period,) and that ſhe had already ſeen twelve great periods of 7000 years. This is obviouſly wrong; it ſhould be ſeven great periods of 12,000 years.

The antediluvian hiſtory, being conſidered by the *Hindus* in different points of view, is related in various ways, having little connection with each other. We are told firſt that BRA'HMA created *ten* BRA'MADICAS or children of BRA'HMA, who were to be the progenitors of the *moveable* and *immoveable* parts of the creation, by which they underſtand *animals* and *vegetables*. Their names are MANICHI, ATRI, ANGIRAS, PULASTYA, PULAHA, CRĬTU, DACSHA, VASISHTHA, BURĬGU, and NARADA. Theſe ſprang immediately from BRA'H-

MA,

MA, and produced the Gods, the *Daityas*, good and bad genii, animals, and plants of all ſorts. The *Puránics* are not agreed as to the number of *Brahmádicas*. In the *Bhágavat* it is declared that they were *ten*; but in other *puránas* they reckon nine; whilſt in the *Scanda-purána* it is declared that there were only ſeven *Brahmádicas*, whoſe names are MARICHI, ATRI, ANGIRA'SA, PULASTYA, PULA'HA, CRITA, and VOSISHTA; nor are there wanting authorities to reduce them to three, namely, the three ſons of SWAYAMBHUVA, who was BRAHMA himſelf in a human ſhape.

It is declared, that the ſeven MENUS, who have made their appearance, ſprang from the *Brahmádicas*: their names are, SWAYAMBHUVA, SWA'ROCHISHA, UTTAMA, TA'MASA, RAIVATA, CHACSHUSHA, and SATYAVRATA or NOAH.

The ſeven RĬSHIS ſprang immediately from BRA'HMA, and their names are, CASYAPA, ATRI, VOSISHTA, VISVAME'TRA, GAUTAMA, JAMADAGNI, and BHA'RADWA'JA. Theſe holy penitents, by their ſalutary counſels, and the example of their auſterities, diſcover the path of rectitude and virtue to mankind. It is remarked of *Atri*, that he was both a *Brahmádica* and a *Rĭſhi*; and, perhaps, the ſeven *Menus*, the ſeven *Brahmádicas*, with the ſeven *Rĭſhis*, are the ſame, and make only ſeven individual perſons. The ſeven *Brahmádicas* were *prajápatis* or lords of the *prajas* or creatures. From them mankind were born, and they are probably the ſame with the ſeven *Menus*, who, when far advanced in years, withdrew from the world, and became *Rĭſhis* or holy penitents, as, according to the *Puránas*, was the general practice of mankind in former ages. Theſe ſeven grand anceſtors of the human race were firſt *Brahmádicas* or children of *Bráhma*, and created for the purpoſe of repleniſhing the earth with inhabitants; having fulfilled their miſſion they became ſovereigns of the univerſe, or *Menus*; and in their old age they withdrew to ſolitary places

to

to prepare for death, and become *Riſhis*. *Swayambhuva*, or the ſon of the ſelf-exiſting, was the firſt *Menu*, and the father of mankind: his conſort's name was *Satarupa*. In the ſecond *Veda*, the Supreme Being is introduced thus ſpeaking: "From me *Bráhma* was born: he is above all; he is *pitama*, or the father of all men; he is *Aja* and *Swayambhu*, or ſelf-exiſting." From him proceeded *Swayambhuva*, who is the firſt *Menu*: they call him *Adima* (or the firſt, or *Protogonus*:) he is the firſt of men, and *Parama-puruſha*, or the firſt male. His help-meet *Pricriti* is called alſo *Satarupa*: ſhe is *Adima* (2) or the firſt: ſhe is *Viſva-jenni*, or the mother of the world: ſhe is *Iva* or like *I*, the female energy of nature, or ſhe is a form of, or deſcended from *I*: ſhe is *Para* or the greateſt: both are like, *Maha-deva* and his *Sacti* (the female energy of nature) whoſe names are alſo *Iſa* and *Iſi*.

Swayambhuva is *Bráhma* in a human ſhape, or the firſt *Bráhma*: for *Bráhma* is man individually, and alſo collectively, mankind; hence *Bráhma* is ſaid to be be born and to die every day, as there are men ſpringing to life, and dying every day. Collectively he dies every hundred years, this being the utmoſt limits of life in the *Cali-yug*, according to the *Puránas*: at the end of the world, *Bráhma* or mankind is ſaid to die alſo, at the end of a hundred divine years. *Swayambhuva*, in the preſent *calpa*, is *Viſhnu* in the character of *Bráhma-rupi Javardana*, or the *Viſhnu* with the countenance of *Bráhma*. To underſtand this it is neceſſary to premiſe, that it has been revealed to the *Hindus*, that, from the beginning to the end of things, when the whole creation will be annihilated and abſorbed into the Supreme Being, there will be five great *calpas*, or periods. We are now in the middle of the fourth *calpa*, fifty years of

(2) *Adima* is the feminine gender from *Adima* or *Adimas*.

Bráhma

Bráhma being elapſed; and of the remainder the firſt *calpa* is begun. Theſe five great *calpas* include 500 years of *Bráhma*, at the end of which nothing will remain but the ſelf-exiſting. Every *calpa*, except the firſt, is preceded by a renovation of the world, and a general flood: whilſt the flood that precedes every *Manwantara* is in great meaſure, a partial one, ſome few high peaks and ſome privileged places, as *Benares*, being excepted; the peaks remaining above the waters, and *Benares* and other privileged places being ſurrounded by the waters as with a circular wall.

Theſe five *calpas* have five deities, who rule by turns, and from whom the *calpas* are denominated. Theſe five deities are, *Dévi*, *Surya* or the Sun, *Ganéſa*, *Viſhnu*, and *Is'wara*. *Bráhma* has no peculiar *calpa*: he is intimate to every one of them. Every deity, in his own period, is *Calſva-rupi* or *Chronus*. We are now under the reign of the fourth *Chronus*. The Weſtern mythologiſts mention ſeveral ruling deities of that name. *Calſva-rupi* ſignifies he who has the countenance of *Cála*, *Chronus*, or *Time*. This is now the *calpa* of *Viſhnu*, who, to create, thought on *Bráhma*, and became *Bráhma-rupi-Janardana*. He preſerves and foſters the whole creation in his own character; and will ultimately deſtroy it through *Iſwara* or *Rudra*. The *calpa* of *Viſhnu* is called alſo the *Pudma* or *Lotos period*. It is declared in the *puránas* that all animals and plants are the *Ling* or *Phallus* of the *Calſva-rupi* deity; and that at the end of his own *calpa* he is deprived of his *Ling* by his ſucceſſor, who attracts the whole creation to himſelf, to ſwallow it up or devour it, according to the Weſtern mythologiſts; and at the end of his *calpa* he diſgorges the whole creation. Such is the origin of *Chronus* devouring his own offspring; of *Jupiter* diſgorging it through a potion adminiſtered to him by *Metis*; and of *Chronus* caſtrating his own father. According to this, *Swayambhuva*

is

is conjointly and individually, *Bráhma*, *Viſhnu*, and *Iſá* or *Maha-deva*. To *Swayambhuva* were born three daughters, *Acuti*, *Deva-ſruti*, and *Viſruti* or *Praſuti*. *Bráhma* created three great *Rajapátis*, to be their huſbands; *Cardama*, *Dacſha*, (the ſame who was alſo a *Bráhmadica*,) and *Ruchi*. *Cardama* is acknowledged to be a form of *Siva*, or *Siva* himſelf: and *Dacſha* to be *Bráhma*; hence he is often called *Dacſha Bráhma*; and we may reaſonably conclude that the benevolent *Ruchi* was equally a form of *Viſhnu*. It is ſaid in the *védas*, as I am aſſured by learned *pundits*, that theſe three gods ſprang in a mortal ſhape from the body of *Adima*; that *Dacſha Bráhma* iſſued myſtically from his navel, *Viſhnu* from his left, and *Siva* from his right ſide. It is declared in the *puránas*, that *Iſwara* cut off one of the heads of *Bráhma*, who being immortal was only maimed. The ſame myſtical rancour was manifeſt when they aſſumed a mortal ſhape, as appears from the following relation: The pious *Dacſha* deſiring to perform ſacrifice, invited gods and men to aſſiſt at it, but did not aſk *Siva* on account of his bad conduct and licentious life. The wife of *Siva*, who was the daughter of *Dacſha*, could not brook this neglect, and determined to go: her huſband expoſtulated with her, but to no purpoſe. When ſhe arrived, her father took no notice of her, which enraged her ſo much, that after having ſpoiled the ſacrifice, ſhe jumped into the ſacred fire, and expired in the flames. *Siva* hearing of her misfortune, went to *Dacſha*; and, reproaching him for his unnatural conduct towards his own daughter, cut off his head. *Dacſha* had no male offſpring, but many daughters, whoſe alliance was eagerly ſought for by the moſt diſtinguiſhed characters. It is aſſerted in the *puránas* that from *Cardama*, *Dacſha*, and *Ruchi*, the earth was filled with inhabitants: yet in the ſame *puránas* we are told, that *Bráhma*, being diſappointed, found it neceſſary to give two ſons to *Adima*, from whom, at laſt, the earth was filled

with inhabitants. Theſe two ſons were PRIYAVRATA and UTTA'NAPA'DA, who appear to be the ſame with CARDAMA and RUCHI. Here the antediluvian hiſtory aſſumes a different ſhape; and the *purânics*, abandoning their idle tales of the ſeven *Menus* and renovations of the world, between the time of SWAYAMBHUVA and the flood of SATYAVRATA, preſents us with ſomething more conſiſtent with reaſon and hiſtorical truth; but which at once overthrows their extravagant fabrick. PRIYAVRATA was the firſt born of ADIMA; and the particulars recorded of his progeny have no ſmall affinity with the generations exhibited by SANCHONIATHO, as will appear from the following comparative Table:

I. ADIMA, and ADIMA or I'VA.	I. PROTOGONUS, ſynonimous with ADIM: AION or AEON from I'VA or I'VAM, in the ſecond caſe.
II. PRIYAVRATA. He married BARHISMATI, the daughter of VISVACARMA, the chief engineer of the Gods.	II. GENUS, GENEA.
III. AGNIDHRA and his ſeven brothers, whoſe names ſignify fire and flame. By one wife he had three ſons: they became *Menus*; and were named, UTTAMA, TAMASA, and RAIVATA. By another wife, AGNIDHRA had nine ſons, who gave their names to the mountainous tracts of *Nabhi*.	III. PHOS, PHUR, PHLOX; that is, light, fire, and flame.

IV. CIM-

IV. CIMPURUSHA, HARIVARSHA, ILA'VARTA, RA'MA'NACA, CURU, BHADRASVA, CE'TUMA'LA, and HIRANMAYA.	IV. They begat ſons of vaſt bulk, whoſe names were given to the mountains on which they ſeized, viz. *Caſſius*, *Libanus*, *Anti-Libanus*, *Brathys*.
V. RĬSHABAHA, ſon of NABAHI.	V. MEMRUMUS, HYPSURANIUS, and USOUS.
VI. BHARATA, who gave his name to the country of *Bharata-varſha*.	VI. AGREÆS, HALIÆUS.
VII. SUMARTI, DHUMRA-CE'TU, whoſe name ſignifies a fiery meteor.	VII. CHRYSAOR.
VIII. DEVAJITA, 9. PRATIHARA, 10. PRATIHATA — ſaid by ſome to be brothers. The names of the two laſt imply beating, hammering, &c.	VIII. TECHNITES, GEINUS, AUTOCHTON.
IX. AJA and BHUMA'NA. Then follows a liſt of ſixteen names, ſuppoſed by ſome to be ſo many generations in a direct line; by others, this is denied: but as nothing is recorded of them, they are omitted.	IX. AGROWERUS, or AGROTES. AJA in *Sanſcrit*, is ſynonimous nearly with *Autochton*, and BHU'MANA anſwers to *Agrowerus* and *Agrotes*.

The poſterity of ADIMA or ADIM (for the letter A in this name has exactly the ſound of the *French e* in the word *j'aime*) through UTTA'NAPA'DA, is as follows:

I. ADIM and I'VA. I'VA ſounds exactly like EVE, pronounced as a diſſyllable E-VE.

II. UTTA'NAPA'DA. He had two wives, SURUCHI and SURUTI: by the firſt he had UTTAMA, and by the ſecond DHRUVA. *Uttánapáda* was exceedingly fond of *Suruchi*, which gave riſe to the following circumſtances. Whilſt he was careſſing *Uttama* his ſon *Dhruva* went to him and was repulſed. *Dhruva* burſt into tears, and complained to his mother, who adviſed him to withdraw into the deſarts. He followed her advice, and retired into a foreſt on the banks of the *Jumna*, where he gave himſelf up to the contemplation of the Supreme Being, and the performance of religious auſterities. After many years the Supreme Being appeared to him, and commanded him to put an end to his auſterities and return to his father, who had relented. He went accordingly to his father, who received him with joy, and reſigned the kingdom to him. *Dhruva*, like *Enoch* in Scripture is commended for his extraordinary piety, and the ſalutary precepts he gave to mankind. He did not taſte death, but was tranſlated to heaven, where he ſhines in the polar ſtar. Here *Enoch* and *Enos* are confounded together. *Uttama*, whoſe education had been neglected, gave himſelf up to pleaſure and diſſipation. Whilſt hunting he happened to quarrel with the *Cuveras*, and was killed in the fray. *Dhruva*, at the head of a numerous army, took the field to revenge the death of his brother: many had fallen on both ſides, when *Swayambhuva* or *Adim* interpoſed, and a laſting peace was concluded between the contending parties.

III. DHRUVA.

III. DHRUVA. He had by his firſt wife two ſons, VATSARA and CALMAVATSARA; by ILA he had a ſon called UTCALA, and a daughter.

IV. VATSARA, by his wife SWACATAI had ſix ſons, the eldeſt of whom was called PUSHPA'RNA.

V. PUSHPA'RNA had by his wife DOSHA three ſons, and by NAD'WALA, CHACSHUSHA, who became a *Menu*.

VI. CHACHUSHA had twelve ſons, the eldeſt of whom was called ULMACA.

VII. ULMACA had ſix ſons, the eldeſt of whom was ANGA.

VIII. ANGA had an only ſon called VENA.

IX. VENA, being an impious and tyrannical prince, was curſed by the BRA'HMENS; in conſequence of which curſe he died without leaving iſſue. To remedy this evil they opened his left arm, and with a ſtick churned the humours till they at laſt produced a ſon, who proved as wicked as his father, and was of courſe ſet aſide: then opening the right arm, they churned till they produced a beautiful boy, who proved to be a form of VISHNU under the name of PRĬTHU.

X. PRĬTHU. Gods and men came to make obeiſance to him, and celebrate his appearance on earth. He married a form of the goddeſs LACSHMI. In his time, the earth having refuſed to give her wonted ſupplies to mankind,

PRĬTHU

PRĬTHU began to beat and wound her. The earth, aſſuming the ſhape of a cow, went to the high grounds of *Meru*, and there laid her complaint before the ſupreme court, who rejected it; as ſhe acknowledged, that ſhe had refuſed the common neceſſaries of life, not only to mankind in general, but to PRĬTHU himſelf, whoſe wife ſhe was in a human ſhape. PRĬTHU and his deſcendants were allowed to beat and wound her in caſe of noncompliance with the decree of the ſupreme court. The earth ſubmitted reluctantly, and ſince that time mankind are continually beating and wounding her, with ploughs, harrows, hoes, and other inſtruments of huſbandry. We are told alſo, in more plain language, that PRĬTHU cut down whole foreſts, levelled the earth, planted orchards, and ſowed fields with all ſorts of uſeful ſeeds. From her huſband PRĬTHU, the earth was denominated PRĬTHWĪ.

PRĬTHU was a religious prince, fond of agriculture, and became a huſbandman; which is to be underſtood by his quarrel with the earth. This induces me to think, that he is the ſame with SATYAVRATA, or NOAH, whoſe mortal father is not mentioned in the *purānas*, at leaſt my *Pundits* have not been able to find it. His heavenly father was the Sun; and SATYAVRATA is declared alſo to be an incarnation of VISHNU. Here I muſt obſerve, that at night, and in the weſt, the Sun is VISHNU: he is BRA'HMA in the eaſt, and in the morning; from noon to evening he is SIVA.

XI. PRĬTHU had five children. VIJITASVA, who became ſovereign over his four brothers, and had the middle part of the kingdom to his own ſhare; HURYACSHA ruled over *Prachi*, or the eaſt, and built the town of *Rājgriha*, now *Rāj-mehal*; DHUMRACE'SHA, who ruled in the ſouth, as VRICA did in the weſt, and DRAVINA'SA in the north.

XII. VI'SI-

XII. VI'SITASWA had by one of his wives three ſons, called PAVACA, PAVAMANA, and SUCHI, all names of fire. He became *Antardhana* at pleaſure, that is to ſay, he appeared and diſappeared whenever he choſe; and he withdrew his ſoul from his body at pleaſure. He was born again of his own wife, and of himſelf, under the name of HAVIRDHANA. HAVIRDHANA married HAVIRDHANI, by whom he had ſix children, known by the general appellation of *Prachina-barhi.*

XIII. VARISHADA, the eldeſt of them, married SATADRUTI the daughter of OCÆANUS, and had by her two ſons called the *Prachetas.*

XIV. The famous DACSHA before mentioned, was born again one of them. His brothers, bidding adieu to the world, withdrew to foreſts in diſtant countries towards the weſt, where they beheld the tranſlation of DHRUVA into heaven. And here ends the line of UTTA'NAPA'DA, which I now exhibit at one view, with ſome variations.

I. SWAYAMBHUVA or ADIM.
II. UTTA'NAPA'DA, who was probably the ſame with RUCHI.
III. DHRUVA, eminent for his piety.
IV. VATSARA.
V. PUSHPARNA, called alſo RIPUNJAYA.
VI. CHACSHUSHA, MENU.
VII. ULMACA or URU.
VIII. ANGA.
IX. VENU.
X. PRĬTHU, ſuppoſed to be NOAH.
XI. VIGITASVA.

XII. HAVIR-

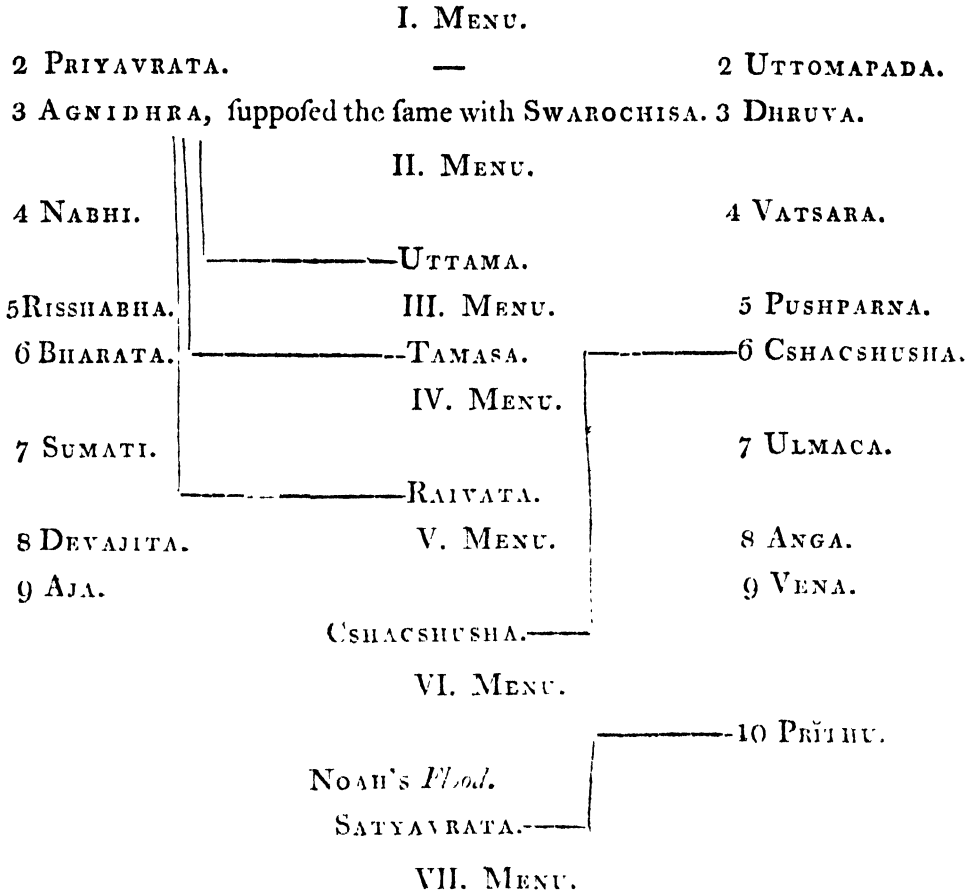
XII. HAVIRDHANA,	SWAYAMBHUVA dies.
XIII. VARISHADA.	
XIV. The ten PRA'CHETA'S.	DHRUVA is tranſlated into heaven.

By ſuppoſing *Prithu* to be *Noah*, and *Dhruva* to be *Enos*, this account agrees remarkably well with the computation of the *Samaritan Pentateuch*. *Enos* lived 433 years after the birth of *Noah*, and, of courſe, the great-grand-children of the latter could be witneſſes of the tranſlation of *Dhruva* into heaven. *Swayambhuva* or *Adam* lived 223 years after the birth of *Noah*, according to the computation of the *Samaritan Pentateuch*; and it is ſaid of *Prithu*, that the earth having aſſumed the ſhape of a cow, he made uſe of this grand anceſtor *Swayambhuva* as a calf to *milk her*. Perhaps the old ſire took delight in ſuperintending the fields and orchards, and attending the dairies of his beloved *Prithu*.

The only material difficulty in ſuppoſing *Prithu* to be the ſame with *Noah*, reſpects his offſpring to the fourth generation before the flood. But, when we conſider that *Noah* was 500 years old when *Japheth* and his two ſons were born, it is hardly credible that he ſhould have had no children till that advanced age. The *puránics* inſiſt, that *Satyavrata* had many before the Flood, but that they periſhed with the reſt of mankind, and that SHARMA or SHAMA, CHARMA, and JYA'PATI, were born after the Flood: but they appear to have no other proof of this, than that they are not mentioned among thoſe who eſcaped with *Noah* in the ark. I ſhall now give a table of the *ſeven Menus* compared with the two lines deſcended from ADIM and I'VA.

SWAY-

SWAYAMBHUVA or ADIMA.



This table completely overthrows the ſyſtem of the *Menwantaras*, previous to the Flood; for it is declared in the *purânas*, that at the end of every *Menwantara*,

wantara, the whole human race is deſtroyed, except one *Menu*, who makes his eſcape in a boat with the ſeven *Rĭſhis*. But, according to the preſent table, *Swayambhuva* went through every *Menwantara* and died in the ſixth; *Dhruva* alſo ſaw five *Menwantaras* and died on the ſixth. *Uttama*, *Tamaſa*, and *Raivata*, being brothers, lived during the courſe of ſeveral *Menwantaras*, and when *Uttama* made his eſcape in a boat, beſides the ſeven *Rĭſhis*, he muſt have taken with him his two brothers, with *Dhruva* and *Swayambhuva*. Of theſe *Menus* little more is recorded in the *purânas*, than that they had a numerous offſpring; that certain *Devatas* made their appearance; and that they diſcomfited the giants. The mortal father of *Swarochiſa* is not known. His divine father was *Agni*; hence, he is ſuppoſed by ſome to be the ſame with *Agnidhra*.

During the reign of the fourth *Menu*, occurred the famous war between the *elephants* and the *crocodiles*, which, in the *purânas*, is aſſerted to have happened in the *ſacred iſles* in the weſt. What was the origin of it we are not told; but whenever the *elephants* went to a lake, either to drink or to bathe, the *crocodiles* laying in wait, dragged them into the water and devoured them. The *Gujindra* or *Nag'nâth*, the lord of the *elephants*, was once attacked by the chief of the *grahas* or *crocodiles* on the bank of a *lake*, in one of the *ſacred iſles* called *Suvarnéya*; a dreadful conflict took place, and the *Nag'nâth* was almoſt overpowered, when he called on *Heri* or *Viſhnu*, who reſcued him, and put an end to the war. What could give riſe to ſuch an extravagant tale I cannot determine, but ſome obvious traces of it ſtill remain in the *ſacred iſles in the weſt*, for almoſt every lake in *Wales* has a ſtrange ſtory attached to it, of battles fought there between an *ox* and a *beaver*, both of an uncommon ſize. At night the lowing of the *ox* and the rattling of the chain, with which the *Ychain-bannawg* or great *ox* endeavours to pull out of the water the *afanc* or *beaver*, are often heard.

heard. It is well known that *elephants* were called *oxen* in the weſt, and the ancient *Romans* had no other name for them. It may be objected, that if there had been *elephants*, in the *ſacred iſles*, the inhabitants would have had names for them; but the *Cymri* are certainly a very modern tribe, relatively to the times we are ſpeaking of; and probably there were no *elephants* or *crocodiles* when they ſettled there; but, hearing of a ſtrange ſtory of battles between a large land animal and an amphibious one, they concluded that theſe two animals could be no other than the *ox* and *beaver*, the largeſt of the kind they were acquainted with, *nag',náhhá ſt'han*, or the place of the *nag'náth*, or lord of the elephantine race, is well known to the antiquaries of *Juvernia*.

During the ſixth *dynaſty* came to paſs the famous *churning of the ocean*, which is poſitively declared in the *purána* to have happened in the *ſea* of *milk*, or more properly, as it is often called alſo the *White Sea*, which ſurrounds the *ſacred iſles* in the weſt, and is thus denominated according to the *Treloca-derpan*, becauſe it waſhes the ſhores of the *white iſland*, the principal of the *ſacred iſles*. The *white iſland* in *Sanſcrit*, *ſweta-dwip* or *chira-dwip*, is as famous in the eaſt as it is in the weſt. It may ſeem ſtrange, that iſlands ſo remote ſhould be known to the *puránics*; but the truth is, that the *védas* were not originally made known to mankind in *India*. The *Bráhmens* themſelves acknowledge that they are not natives of *India*, but that they deſcended into the plains of *Hinduſtan* through the paſs of *Heri-dwar*.

The old continent is well deſcribed in the *puránas*, but more particularly the countries in which the *védas* where made public; and in which the doctrine they contain flouriſhed for a long time. Accordingly the *ſacred iſles* in the weſt, the countries bordering on the *Nile*, and, laſt of all, *India*, are better and

more minutely deſcribed than any other country. *Atri* called *Edris*, and *Idris*, in the countries to the weſt of *India*, carried the *védas* from the abode of the gods on the ſummit of *Meru*, firſt, to the *ſacred iſles*; thence to the banks of the *Nile*; and, laſtly, to the borders of *India*. The place of his abode, whilſt in the *ſacred iſles*, became afterwards a famous place of worſhip under the name of *Atri-ſt'han* the *place* or *ſeat* of *Atri* or *Idris*. It is often mentioned in the *puránas*, and deſcribed to be on a high mountain, not far from the ſea ſhore.

I ſhall paſs over the four ages, as they do not appear to anſwer any purpoſe, either aſtronomical or hiſtorical. They are called by the ſame names that were uſed by the *Greek* mythologiſts; except the fourth, which is called by the *Hindus*, the *earthen* age. I ſhall only remark, that *Menu* in his Inſtitutes ſays, that in the firſt or *golden* age *, men, free from diſeaſe, lived four hundred years; but in the ſecond, and the ſucceeding ages, their lives were leſſened gradually by one quarter; that in the *cali-yug*, or preſent age, men live only one hundred years. This may ſerve to fix the period and duration of the firſt ages; for it is obvious, that the whole paſſage refers to natural years.

I ſhall now conclude this account of *antediluvian* hiſtory by obſerving, that the firſt deſcendants of *Swayambhuva* are repreſented in the *puránas*, as living in the mountains to the north of *India* toward the ſources of the *Ganges*, and downwards as far as *Seri-nágara* and *Hari-dwár*. But the rulers of mankind lived on the ſummit of *Meru* towards the north; where they appear to have eſtabliſhed the ſeat of juſtice, as the *puránas* make frequent mention of the oppreſſed repairing thither for redreſs. *India*, at that time, ſeems to have been

* Inſtitutes of *Menu*, p. 11.

perfectly

perfectly inſulated; and we know, that from the mouth of the *Indus* to *Dehli*, and thence to the mouth of the *Ganges*, the country is perfectly level, without even a ſingle hillock; but this ſubject is foreign to my preſent purpoſe, and may be reſumed hereafter. The generations after the Flood, exhibited in the accompanying table, begin with the famous *Atri*, and end with *Chandra-Gupta*, who was contemporary with *Alexander the Great*, *Buddha*, the grandſon of *Atri* married *Ila*, daughter of *Satyavrata* or *Noah*, who was born to him in his old age.

Atri for the purpoſe of making the *védas* known to mankind, had theſe ſons; or, as it is declared in the *puránas*, the *Trimurti*, or *Hindu Triad*, was incarnated in his houſe. The eldeſt called *Soma*, or the moon in a human ſhape, was a portion or form of *Bráhma*. To him the *ſacred iſles* in the weſt were allotted. He is ſtill alive though inviſible, and is acknowledged as the chief of the ſacerdotal tribe to this day.

The ſecond, a portion of *Viſhnu*, was called *Datta* or *Date* and *Dattátréya*. The countries bordering on the *Nile* fell to his ſhare. He is the *Toth* of the *Egyptians*.

The third was a choleriek ſaint called *Durvásás*. He was a portion of *Mahádéva*, but had no fixed place aſſigned to him; and he is generally rambling over the world, doing more miſchief than good; however, we find him very often performing *Tapaſya* in the mountains of *Armenia*. A dreadful conflagration happened once in that country, which ſpreading all over *Cuſha-dwipa* deſtroyed all the *animals* and *vegetables*. *Arama*, the *ſon* of a *ſon* of *Satyavrata* (and conſequently the *Aram* of Scripture) who was hunting through theſe mountains,

mountains, was involved with his party in the general conflagration; a puniſhment inflicted, it is ſuppoſed, for his having inadvertently wounded the foot of *Durváſás* with an arrow. The death of *Arama* happened three hundred years after the Flood, according to the *puránas* *, as noticed in a former eſſay on *Egypt*.

Chandra-Gupta, or he who was ſaved by the interpoſition of *Lunus* or the *Moon*, is called alſo *Chandra* in a poem quoted by SIR WILLIAM JONES. The *Greeks* call him *Sandracuptos*, *Sandracottos*, and *Androcottos*. *Sandrocottos* is generally uſed by the hiſtorians of *Alexander*; and *Sandracuptos* is found in the works of *Athenæus*. *Sir William Jones*, from a poem written by *Somadeva*, and a tragedy called the coronation of *Chandra* or *Chandra-Gupta* †, diſcovered that he really was the *Indian* king mentioned by the *hiſtorians* of *Alexander*, under the name of *Sandracottos*. Theſe two poems I have not been able to procure; but, I have found another dramatic piece, intitled *Mudra-Rácſhaſa*, or the *ſeal* of *Rácſhaſa*, which is divided into two parts: the firſt may be called the coronation of *Chandra-Gupta*, and the ſecond the reconciliation of *Chandra-Gupta* with *Mantri-Rácſhaſa*, the prime miniſter of his father.

The hiſtory of *Chandra-Gupta* is related, though in few words, in the *Viſhnu-purána*, the *Bhagawat*, and two other books, one of which is called *Brahat-catha*, and the other is a lexicon called *Camandaca*: the two laſt are ſuppoſed to be about ſix or ſeven hundred years old.

* Eſſay on *Egypt*, in the *Aſiat. Reſ.* vol. III. p. 38.

† *Aſiatick Reſearches*, vol. IV. p. 6. 11.

In

In the *Viſhnu-purána* we read, " unto *Nanda* ſhall be born nine ſons; *Co-*
" *tilya*, his miniſter ſhall deſtroy them, and place *Chandra-Gupta* on the
" throne."

In the *Bhagawat* we read, " from the womb of *Sudri*, *Nanda* ſhall be born.
" His eldeſt ſon will be called *Sumalya*, and he ſhall have eight ſons more:
" theſe, a *Bráhmen* (called *Cotilya*, *Vatſayana*, and *Chanacya* in the commentary)
" ſhall deſtroy, after them a *Maurya* ſhall reign in the *Cali-yug*. This *Bráh-*
" *men* will place *Chandra-Gupta* on the throne." In the *Brahatcatha* it is ſaid, that this revolution was effected in ſeven days, and the nine children of *Nanda* put to death. In the *Camandaca*, *Chanacyas* is called *Viſhnu-Gupta*. The following is an abſtract of the hiſtory of *Chandra-Gupta* from the *Mudra-Rácſhaſa*:

Nanda, king of *Prachi*, was the ſon of *Maha Nandi*, by a female ſlave of the *Sudra* tribe: hence *Nanda* was called a *Sudra*. He was a good king, juſt and equitable, and paid due reſpect to the *Bráhmens*: he was avaricious, but he reſpected his ſubjects. He was originally king of *Magadu*, now called *South-Bahar*, which had been in the poſſeſſion of his anceſtors ſince the days of *Criſhna*; by the ſtrength of his arm he ſubdued all the kings of the country, and like another *Paraſu-Ráma* deſtroyed the remnants of the *Cſhettris*. He had two wives, *Ratnavati* and *Mura*. By the firſt he had nine ſons, called the *Sumalyadicas*, from the eldeſt, whoſe name was *Sumalya* (though in the *dramas*, he is called *Sarvarthaſidd'hi*); by *Mura* he had *Chandra-Gupta*, and many others, who were known by the general appellation of *Mauryas*, becauſe they were born of *Mura*.

Nanda,

Nanda, when far advanced in years, was taken ill ſuddenly, and to all appearance died. He ſoon revived, to the great joy of his ſubjects: but his ſenſes appeared to be greatly deranged, for he no longer ſpoke or acted as before. While ſome aſcribed the monarch's imbecillity to the effects of a certain poiſon, which is known to impair the faculties at leaſt, when it proves too weak to deſtroy the life of thoſe to whom it is adminiſtered, *Mantri-Rácſhaſa*, his prime miniſter was firmly perſuaded, according to a notion very prevalent among the *Hindus*, that upon his maſter's death, ſome magician had entered into the lifeleſs corpſe which was now re-animated and actuated by his preſence. He, therefore, ſecretly ordered, that ſtrict ſearch might be made for the magician's own body; for, as according to the tenets of their ſuperſtition, this would neceſſarily be rendered inviſible, and continue ſo, as long as its ſpirit informed another body; ſo he naturally concluded the magician had enjoined one of his faithful followers to watch it, until the diſſolution of the ſpell ſhould end the trance. In conſequence of theſe orders, two men being diſcovered keeping watch over a corpſe on the banks of the *Ganges*, he ordered them to be ſeized and thrown into the river, and cauſed the body to be burnt immediately. It proved to belong to *Chandra-das*, a king of a ſmall domain in the weſtern part of *India* beyond the *Vindhyan* hills, the capital whereof is called *Vicat-palli*. This prince having been obliged to ſave himſelf by flight, from the *Yavanas* or *Greeks*, who had diſpoſſeſſed him of his kingdom, had aſſumed, with the garb of a penitent, the name of *Suvid'ha*. *Mantri-Racſhaſa* having thus puniſhed the magician for his preſumption, left the country.

When *Nanda* recovered from his illneſs he became a tyrant, or, rather, having entruſted *Sacatara*, his prime miniſter, with the reins of government, the latter ruled with abſolute ſway. As the old king was one day hunting with his miniſter, towards the hills to the ſouth of the town, he complained of his being

ing thirſty, and quitting his attendants, repaired with *Sacatara* to a beautiful *reſervoir*, under a large ſpreading tree, near a cave in the hills, called *Patal-candira*, or the paſſage leading to the infernal regions; there *Sacatara* flung the old man into the *reſervoir*, and threw a large ſtone upon him. In the evening he returned to the imperial city, bringing back the king's horſe, and reported, that his maſter had quitted his attendants and rode into the foreſt; what was become of him he knew not, but he had found his horſe grazing under a tree. Some days after *Sacatara*, with *Vacranara*, one of the ſecretaries of ſtate, placed *Ugradhanwa*, one of the younger ſons of *Nanda*, on the throne.

The young king being diſſatisfied with *Sacatara's* account of his father's diſappearance, ſet about farther enquiries during the miniſter's abſence, but theſe proving as little ſatisfactory, he aſſembled the principal perſons of his court, and threatened them all with death, if, in three days, they failed to bring him certain intelligence what was become of his father. This menace ſucceeded, for, on the fourth day, they reported that, *Sacatara* had murdered the old king, and that his remains where concealed under a ſtone in the *reſervoir* near *Patal-candra*; *Ugradhanwa* immediately ſent people with camels, who returned in the evening, with the body and the ſtone that had covered it. *Sacatara* confeſſed the murder, and was thereupon condemned to be ſhut up with his family in a narrow room, the door of which was walled up, and a ſmall opening only left for the conveyance of their ſcanty allowance. They all died in a ſhort time, except the youngeſt ſon *Vicatara*, whom the young king ordered to be releaſed, and took into his ſervice. But *Vicatara* meditated revenge; and the king having directed him to call ſome *Bráhman* to aſſiſt at the *ſraddha* he was going to

perform, in honour of his anceſtor, *Vicatara*, brought an ill-natured prieſt, of a moſt ſavage appearance, in the expectation that the king might be tempted, from diſguſt at ſo offenſive an object, to offer ſome affront to the *Brâhmen*, who, in revenge, would denounce a curſe againſt him. The plan ſucceeded to his wiſh: the king ordered the prieſt to be turned out, and the latter laid a dreadful imprecation upon him, ſwearing at the ſame time, that he would never tie up his *ſhicá* or lock of hair, till he had effected his ruin. The enraged prieſt then ran out of the palace exclaiming, whoever wiſhes to be king let him follow me. *Chandra-Gupta* immediately aroſe, with eight of his friends, and went after him. They croſſed the *Ganges*, with all poſſible diſpatch, and viſited the king of *Népal*, called *Parvateſwara*, or the lord of the mountains, who received them kindly. They entreated him to aſſiſt them with troops and money, *Chandra-Gupta* promiſing, at the ſame time, to give him the half of the empire of *Práchi*, in caſe they ſhould be ſucceſsful. *Parvateſwara* anſwered, that he could not bring into the field a ſufficient force to effect the conqueſt of ſo powerful an empire; but, as he was on good terms with the *Yavans* or *Greeks*, the *Sacas* or *Indo-Scythians*, the people of *Camboja* or *Gayni*, the *Ciratas* or inhabitants of the mountains to the eaſtward of *Népal*, he could depend on their aſſiſtance. *Ugradhanwa* enraged at the behaviour of *Chandra-Gupta*, ordered all his brothers to be put to death.

The matter, however, is related differently in other books, which ſtate, that *Nanda*, ſeeing himſelf far advanced in years, directed that, after his deceaſe, his kingdom ſhould be equally divided between the *Sumalyadicas*, and that a decent allowance ſhould be given to the *Mauryas* or children of *Mura*, but the *Sumalyadicas* being jealous of the *Mauryas*, put them all to death, except *Chandra-Gupta*, who, being ſaved through the protection of *Inanus*, out of gratitude aſſumed the name of *Chandra-Gupta*, or ſaved by the moon: but to reſume the narrative,

Parvaté-

Parvátéſwara took the field with a formidable army, accompanied by his brother *Virochana* and his own ſon *Malaya-Cetu*. The confederates ſoon came in ſight of the capital of the king of *Prachi*, who put himſelf at the head of his forces, and went out to meet them. A battle was fought, wherein *Ugradhanwa* was defeated, after a dreadful carnage, in which he himſelf loſt his life. The city was immediately ſurrounded, and *Sawartha-Siddhi*, the governor, ſeeing it impoſſible to hold out againſt ſo powerful an enemy, fled to the *Vindhyan* mountains, and became an anchoret. *Racſhaſa* went over to *Parvátéſwara* *. *Chandra-Gupta*, being firmly eſtabliſhed on the throne, deſtroyed the *Sumalyadicas*, and diſmiſſed the allies, after having liberally rewarded them for their aſſiſtance: but he kept the *Yavans* or *Greeks*, and refuſed to give the half of the kingdom of *Prachi* to *Parvátéſwara*, who, being unable to enforce his claim, returned to his own country meditating vengeance. By the advice of *Racſhaſa* he ſent a perſon to deſtroy *Chandra-Gupta*; but *Viſhnu-Gupta*, ſuſpecting the deſign, not only rendered it abortive, but turned it back upon the author, by gaining over the aſſaſſin to his intereſt, whom he engaged to murder *Parvátéſwara*, which the villain accordingly effected. *Racſhaſa* urged *Malaya-Cetu* to revenge his father's death, but though pleaſed with the ſuggeſtion, he declined the enterprize, repreſenting to his councellor, that *Chanara Gupta* had a large body of *Yavans* or *Greeks* in his pay, had fortified his capital, and placed a numerous gariſon in it, with guards of *elephants* at all the gates; and finally, by the defection of their allies, who were either overawed by his power, or conciliated by his favour, had ſo firmly eſtabliſhed his authority, that no attempt could be made againſt him with any proſpect of ſucceſs.

* *Racſhaſa* on hearing of the death of *Sacatara* returned, and became prime miniſter of *Ugradhanwa*.

In the mean time *Viſhnu-Gupta*, being conſcious that *Chandra-Gupta* could never be ſafe ſo long as he had to contend with a man of *Racſhaſa's* abilities, formed a plan to reconcile them, and this he effected in the following manner: there was in the capital a reſpectable merchant or banker, called *Chandana-Das*, an intimate friend of *Racſhaſa*. *Viſhnu-Gupta* adviſed *Chandra-Gupta* to confine him with his whole family: ſometime after he viſited the unfortunate priſoner, and told him that the only way to ſave himſelf and family from imminent deſtruction, was to effect a reconciliation between the king and *Racſhaſa*, and that, if he would follow his advice, he would point out to him the means of doing it. *Chandana-Das* aſſented, though, from the known inveteracy of *Racſhaſa* againſt *Chandra-Gupta*, he had little hope of ſucceſs. Accordingly, he and *Viſhnu-Gupta*, betook themſelves privately to a place in the northern hills, where *Racſhaſa* had a country ſeat, to which he uſed to retire from the buſtle of buſineſs. There they erected a large pile of wood, and gave out that they intended to burn themſelves. *Racſhaſa* was aſtoniſhed when he heard of his friends' reſolution, and uſed every endeavour to diſſuade them from it; but *Chandana-Das* told him, he was determined to periſh in the flames with *Viſhnu-Gupta*, unleſs he would conſent to be reconciled to *Chandra-Gupta*. In the mean time the prince arrived with a retinue of five hundred men; when, ordering them to remain behind, he advanced alone towards *Racſhaſa*, to whom he bowed reſpectfully and made an offer of delivering up his ſword. *Racſhaſa* remained a long time inexorable, but at laſt, overcome by the joint entreaties of *Viſhnu-Gupta* and *Chandana-Das*, he ſuffered himſelf to be appeaſed, and was reconciled to the king, who made him his prime miniſter. *Viſhnu-Gupta*, happily ſucceeded in bringing about this reconciliation, withdrew to reſume his former occupations; and *Chandra-Gupta* reigned afterwards many years, with juſtice and equity, and adored by his ſubjects.

By

By *Prachi* (in Sanſcrit) or the eaſt, is underſtood all the country from *Allahabad* to the eaſternmoſt limits of *India*: it is called alſo *purva*, an appellation of the ſame import, and *purob* in the ſpoken dialects. This laſt has been diſtorted into *purop* and *prurop* by European travellers of the laſt century. From *prachi* is obviouſly derived the name of *Praſii*, which the Greeks gave to the inhabitants of this country. It is divided into two parts: the firſt comprehends all the country from *Allahabad* to *Raj-mehal* and the weſtern branch of the *Ganges*; the ſecond includes *Bengal*, the greateſt part of which is known in Sanſcrit under the name of *Gancara-deſa*, or country of *Gancara*, from which the Greeks made *Gangaridas* or *Gangaridai*, in the firſt caſe. *Gancara* is ſtill the name of a ſmall diſtrict near the ſummit of the *Delta*.

Perhaps from theſe two countries called *Purva* is derived the appellation of *Parvaim* in Scripture, which appears with a dual form. According to Arrian's *Periplus*, *Bengal* was famous for its highly refined gold, called *Keltin* in the *Periplus*, and *Canden* or *Calden* to this day. It is called *Kunden* in the *Ayeen Ackbery* *.

The capital city of *Prachi* proper, or the weſtern part of it, is declared to be *Ráj-griha*, or the royal manſion. According to the *puránas* it was built by a ſon of king *Prithu*, called *Havirdhána*. It was taken afterwards by *Bala-Rama*, the brother of *Criſhna*, who rebuilt it, and aſſigned it as a reſidence for one of his ſons, who are called in general *Baliputras*, or the children of *Bala*. From this circumſtance it was called *Balipura*, or the town of the ſon of *Bala*; but in the ſpoken dialects it was called *Bali-putra*, becauſe a *putra*, or ſon of *Bali*, reſided in it. From *Bali-putra* the Greeks made *Palipatra* and *Pali-bothra*, and

* Vol. III. p. 201.

the

the inhabitants of the country, of which it was the capital, they denominated *Palibothri*, though this appellation more properly belongs to another tribe of *Hindus*, of whom I gave ſome account in a former eſſay on Egypt.

DIODORUS SICULUS, ſpeaking of *Palibothra*, ſays, that it had been built by the Indian *Hercules*, who, according to *Megaſthenes*, as quoted by *Arrian*, was worſhipped by the *Suraſeni*. Their chief cities were *Methora* and *Cliſobora*; the firſt is now called *Mutra* (*), the other *Mugu-nagur* by the Muſulmans, and *Caliſa-pura* by the Hindus. The whole country about *Mutra* is called *Suraſena* to this day by learned *Bráhmens*.

The Indian *Hercules*, according to *Cicero*, was called BELUS. He is the ſame with BALA, the brother of CRĬSHNA, and both are conjointly worſhipped at *Mutra*; indeed, they are conſidered as one *Avatara*, or incarnation of *Viſhnu*. *Bala* is repreſented as a ſtout man with a club in his hand. He is called alſo *Bala-Roma*. To decline the word *Bala* you muſt begin with *Balas*, which I conceive to be an obſolete form, preſerved only for the purpoſe of declenſion, and etymological derivation. The firſt *a* in *Bala* is pronounced like the firſt *a* in *America*, in the eaſtern parts of *India*: but in the weſtern parts, and in *Benares*, it is pronounced exactly like the French *e* in the pronouns *je*, *me*, *le*, &c. thus the difference between *Balas* and *Belus* is not very great. As *Bala* ſprung from *Viſhnu*, or *Heri*, he is certainly *Heri-cula*, *Heri-culas*, and *Hercules*. *Diodorus Siculus* ſays, that the poſterity of *Hercules* reigned for many centuries in *Palibothra*, but that they did nothing worthy of being recorded; and, indeed, their names are not even mentioned in the *puránas*.

(*) In Sanſcrit it is called *Mat'hura*.

In

In the *Ganga-mahatmya*, in which all places of worſhip, and others of note, on the banks of the *Ganges*, are mentioned, the preſent town of *Raj-mehal* is poſitively declared to be the ancient city of *Raj-griha* of the *purânas*, the capital of *Prachi*, which afterwards was called *Bali-putra*.

Raj-griha, and *Raj-mehal* in *Perſian*, ſignify the ſame thing. It is alſo called by the natives *Raj-mandalam*, and by *Ptolemy Palibothra-mandalon* for *Bali-putra-mandalam*: the firſt ſignifies the royal manſion, and the ſecond the manſion of the *Bala-putras*. In a more extenſive ſenſe *mandalam* ſignifies the circle, or country belonging to the *Bali-putras*. In this ſenſe we ſay *Coro-mandel*, for *Cholo* or rather *Jala-mandal*.

Here I muſt obſerve, the preſent *Raj-mehal* is not preciſely on the ſpot where the ancient *Raj-griha*, or *Bali-putra*, ſtood, owing to the ſtrange devaſtation of the *Ganges* in that part of the country for ſeveral centuries paſt. Theſe devaſtations are atteſted by univerſal tradition, as well as by hiſtorical records, and the concurring teſtimony of RALPH, FITCH, TAVERNIER, and other *European* travellers of the laſt century. When I was at *Raj-mehal* in January laſt, I was deſirous of making particular enquiries on the ſpot, but I could only meet with a few *Bráhmens*, and thoſe very ignorant; all they could tell me was, that in former ages *Raj-mehal*, or *Raj-mandal*, was an immenſe city, that it extended as far as the eaſtern limits of *Boglipoore* towards *Terriagully*, but that the *Ganges*, which formerly ran a great way towards the N.E. and Eaſt, had ſwallowed it up; and that the preſent *Raj-mehal*, formerly a ſuburb of the ancient city, was all that remained of that famous place. For farther particulars they referred me to learned *pundits* who unfortunately lived in the interior parts of the country.

In

In the *Mudrá-rácſhaſa*, it is declared, that the city in which *Chandra-Gupta* reſided, was to the north of the hills, and, from ſome particular circumſtances that will be noticed hereafter, it appears that they could not be above five or ſix miles diſtant from it. *Megaſthenes* informs us alſo, that this famous city was ſituated near the confluence of the Erannoboas with the Ganges. The Erannoboas has been ſuppoſed to be the Sone, which has the epithet of *Hirán-ya-baha*, or *gold-waſting*, given to it in ſome poems. The Sone, however, is mentioned as a diſtinct river from the Erannoboas, both by *Pliny* and *Arrian*, on the authority of *Megaſthenes:* and the word *Hirán-ya-baha*, from which the Greeks made Erannoboas, is not a *proper* name, but an *appellative* (as the Greek *Chryſorhoas)*, applicable, and is applied, to any river that rolls down particles of gold with its ſands. Moſt rivers in *India* as well as in *Europe*, and more particularly the Ganges, with all the rivers that come down from the northern hills, are famous in ancient hiſtory for their golden ſands. The *Coſſoanus* of *Arrian*, or *Coſſoagus* of *Pliny*, is not the river *Cooſy*, but the *Coſſanor Cattan*, called alſo *Coſſay*, *Coſſar*, and *Caſſay*, which runs through the province of *Midnapoor*, and joins the remains of the weſtern branch of the Ganges below *Nanga-Caſſan*.

The Erannoboas, now the Cooſy, has greatly altered its courſe for ſeveral centuries paſt. It now joins the Ganges, about five and twenty miles above the place where it united with that river in the days of *Megaſthenes*; but the old bed, with a ſmall ſtream, is ſtill viſible, and is called to this day *Puranah-bahah*, the old *Cooſy*, or *the old channel*. It is well delineated in Major RENNELL's ATLAS, and it joins an arm of the Ganges, formerly the bed of that river, near a place called *Nabob-gunge*. From *Nabob-gunge* the Ganges formerly took an extenſive ſweep to the eaſtward, towards *Hyatpoor*, and the old banks of the river are ſtill viſible in that direction. From theſe facts, ſupported

ported by a cloſe inſpection of the country, I am of opinion, *Baliputra* was ſituated near the confluence of the old Cooſy with the Ganges, and on the ſpot where the villages of *Mynyaree* and *Biſſuntpoor-gola* now ſtand; the Ganges proceeding at that time in an eaſterly direction from *Nabob-gunge*, and to the north of theſe villages. The fortified part of *Palibothra*, according to *Megaſthenes*, extended about ten miles in length, while the breadth was only two. But the ſuburbs, which extended along the banks of the Ganges, were, I doubt not, ten or fifteen miles in length. Thus *Dehli*, whilſt in a flouriſhing ſtate, extended above thirty miles along the banks of the *Jumna*, but, except about the centre of the town, conſiſted properly of only a ſingle ſtreet, parallel to the river.

The ancient geographers, as *Strabo*, *Ptolemy*, and *Pliny*, have deſcribed the ſituation of *Palibothra* in ſuch a manner that it is hardly poſſible to miſtake it.

Strabo *, who cites *Artemidorus*, ſays, that the Ganges on its entering the plains of India, runs in a ſouth direction as far as a town called *Ganges*, *(Ganga-puri,)* now *Allahabad*, and from thence, with an eaſterly courſe as far as *Palibothra*, thence to the ſea (according to the *Chreſtomathia* from *Strabo)* in a ſoutherly direction. No other place but that which we have aſſigned for the ſite of *Bali-putra*, anſwers to this deſcription of *Artemidorus*.

Pliny, from *Megaſthenes*, who, according to *Strabo*, had repeatedly viſited the court of *Chandra-Gupta*, ſays, that *Palibothra* was 425 *Roman* miles

* B. XV. p. 719.

from the confluence of the Jumna with the Ganges. Here it is neceſſary to premiſe, that *Megaſthenes* ſays the highways in India were meaſured, and that at the end of a *certain Indian meaſure* (which is not named, but is ſaid to be equal to *ten ſtadia,)* there was a *cippus* or ſort of *column* erected. No Indian meaſure anſwers to this but the *Brahmeni*, or aſtronomical coſs, of *four* to a *yojana*, This is the Hindu *ſtatute* coſs, and equal to 1,227 Britiſh miles. It is uſed to this day by aſtronomers, and by the inhabitants of the *Panjab*, hence it is very often called the *Panjabi-coſs*: thus the diſtance from *Lahor* to *Multan* is reckoned, to this day to be 145 *Panjabi*, or 90 *common coſs*.

In order to aſcertain the number of *Brâhmeni* coſs reckoned formerly between *Allahabad* and *Palibothra*, multiply the 425 Roman miles by eight (for Pliny reckoned ſo many ſtadia to a mile) and divide the whole by ten (the number of ſtadia to a coſs according to Megaſthenes) and we ſhall have 340 *Brâhmeni* coſs, or 417.18 Britiſh miles; and this will bring us to within two miles of the confluence of the old Cooſy with the Ganges.

Strabo informs us alſo that they generally reckoned 6000 ſtadia from *Palibothra* to the mouth of the Ganges; and from what he ſays, it is plain, that theſe 6000 ſtadia are to be underſtood of ſuch as were uſed at ſea, whereof about 1100 make a degree. Thus 6000 of theſe ſtadia give 382 Britiſh miles. According to Pliny they reckoned more accurately 6380 ſtadia or 406 Britiſh miles, which is really the diſtance by water between the confluence of the old Cooſy with the Ganges, and Injellee at the mouth of the Ganges. Ptolemy has been equally accurate in aſſigning the ſituation of Palibothra relatively

to

to the towns on the banks of the Ganges, which he mentions above and below it. Let us begin from the confluence of the Tuſo, now the Tonſe, with the Ganges.

Tuſo, now the *Tonſe*, (See Major *Rennel's* courſe of the Ganges.)

Cindia, now *Conteeah*.

Sagala (in Sanſcrit *Suchela*, but in the vulgar dialects *Sokheila)* now Vindya-Vaſni near Mirzapoor.

Sanbalaca, in Sanſcrit *Sammalaca*. It is now called *Sumbulpoor*, and is ſituated in an iſland oppoſite to Patna. It is called Sabelpoor in Major *Rennel's* Map of the courſe of the Ganges, but the true name is Sumbulpoor. It derived its celebrity, as well as its name, from games (for ſo the word Sammallaca imports) performed there every year in honour of certain heroes of antiquity. During the celebration of theſe games, Sammallaca was frequented by a prodigious concourſe of merchants, and all ſorts of people, inaſmuch that it was conſidered as the greateſt fair in the country. This place is mentioned in the *Hari-cſhetra Maha-tmya*, which contains a deſcription of the principal places of worſhip in North Bahar.

Boræca, now *Borounca*, oppoſite to Bar and Rajowly, near Mowah on the Byar, about three miles from the Ganges, which formerly ran cloſe by it. It was the place of reſidence of the kings of the Bhur tribe, once very powerful in this country.

Sigala, Mongier. In *Ptolemy's* time it was ſituated at the junction of the river Fulgo with the Ganges, which he derives from the mountains of Uxentus, as that word probably is, from *Echác-dés*, or country of *Echác*, or, as it written in the maps *Etchauk:* there are five or ſix places of this name in the mountains of Ramgur. The river Fulgo is the Cacuthis of *Arrian*,

ſo called from its running through the country of Cicata. According to the ſame author, the Andomatis or Dummoody had its ſource in the ſame mountains.

The Ganges formerly ran almoſt in a direct line from Borounka to Monghier, the Fulgo uniting with it near this place; but ſince the river taking a ſoutherly courſe, has made great encroachments upon the northern boundary of Monghier, which ſtretched out a conſiderable diſtance in that direction to a hill of a conical ſhape, which the ſtream has totally waſhed away. This fact is aſcertained on the evidence of ſeveral Hindu ſacred books, particularly of the *Gangamahatmya*; for, at the time this was written, one half of the hill ſtill remained. *Sigala* appears to be corrupted from the Sanſcrit *Sirhala, a plough.* At the birth of CHRĬSHNA a ſheet of fire like the garments of the gods, appeared above the place called Vindhyavaſni, near Mirzapoor. This appearance is called *Suchéla,* or, in the vulgar dialects, *Sukhela* or *Sukhaila,* from which the Greeks made *Sagala.* This fiery meteor forced its way through the earth, and re-appeared near Monghier, tearing and furrowing up the ground like a plough, or *ſirhala.* The place where it re-appeared is near Monghier, and there is a cave formed by lightning ſacred to *Devi.*

Palibothra. Near the confluence of the old Cooſy with the Ganges.

Aſtha-Gura, now *Jetta-gurry,* or *Jetta-coory,* in the inland parts of the country and at the entrance of a famous paſs through the Raj-mehal hills.

Corygazus, near Palibothra, and below it, is derived from the Sanſcrit *Gauri-Goſchi,* or the *wilderneſs of Gauri,* a form of *Devi.* The famous town of Gaur derives its name from it. It is called by *Nonnus* in his *Dionyſiacs* Gagus for Goſcha, or the Goſcha by excellence. He ſays it was ſurrounded with a net-work, and that it was a journey of two days in circumference. This ſort of incloſure is ſtill practiſed in the eaſtern

eaſtern parts of *India*, to prevent cattle from ſtraying, or being moleſted by tigers and other ferocious animals. The kings of *Perſia* ſurround their Haram, when encamped, with a net-work; and formerly, the *Perſians*, when beſieging a town, uſed to form a line of contravallation with nets. The northern part only, towards *Cotwally*, was inhabited at that early period.

Tondota. Tanda-haut (haut is a market). This name, in different MSS. of *Ptolemy*, is variouſly written, for we read alſo, *Condota* and *Sondota:* and unfortunately, theſe three readings are true *Hindu* names of places, for we have *Sanda-haut*, and *Cunda-haut*. However, *Tanda-haut*, or in *Sanſcrit*, *Tandá-haut* appears to be *Tandá*, formerly a market place, called alſo *Tanrah*, *Tarrah*, *Tardah*, and *Tanda*. It is ſituated near the ſouthern extremity of the high grounds of *Gaur*, on the banks of the old bed of the *Ganges*.

Tamalites. Samal-haut. No longer a *Hát*, but ſimply *Samal-poore. Tamal-hat* is not a *Hindu* name, and, I ſuppoſe here, a miſtake of the tranſcriber. It is between *Downapoor* and *Sooty*. (See *Rennell's* map.) The *Ganges* ran formerly cloſe to theſe three places; and Mr. *Bernier*, in his way from *Benares* to *Coſſimbazar*, landed at *Downapoor*.

Elydna is probably *Laudannah*.

Cartinaga, the capital of the *Cocconagæ*, or rather *Cottonaga*, is called now *Cuttunga*, it is near *Soory*; the *Portugueſe*, laſt century, called it *Cartunga* and *Catrunga*.

Cartiſina now *Carjuna*, or *Cajwana*, is near *Beudwan*. I ſhall juſt obſerve here, that the three laſt mentioned towns are erroneouſly placed, in *Mercator's* map, on the banks of the *Ganges*. *Ptolemy* ſays no ſuch thing.

The next place on the banks of the *Ganges* is

Orco-

Oreophonta. Hararpunt or *Haryárpunt* in the vulgar dialects; in Sanscrit it is *Hararparna* from *Hara* and *Arpana*, which implies a piece of ground consecrated to *Hara* or *Mahá-deva*. The word *Arpana* is always pronounced in the spoken dialects, *Arpunt*; thus they say, *Crishnarpunt*. It is now *Rangamatty*. Here was formerly a place of worship, dedicated to *Mahá-deva* or *Hara*, with an extensive tract of ground appropriated to the worship of the God; but the Ganges having destroyed the place of worship, and the holy ground having been resumed during the invasions of the Musulmans, it is entirely neglected. It still exists, however, as a place of worship, only the image of the Phallus is removed to a greater distance from the river.

Aga-nagara, literally the *Nagara*, or town of *Aga*. It is still a famous place of worship in the *dwipa* (island or peninsula) of Aga, called, from that circumstance, *Aga-dwip*: the true name is *Agar-dwip*. A few miles above Aga-nagara, was the city called *Catadupe* by *Arrian* from *Cativa-dwip*, a place famous in the *puránas*. It is now called Catwa.

Ganges-regia, now *Satgauw*, near *Hoogly*. It is a famous place of worship, and was formerly the residence of the kings of the country, and said to have been a city of an immense size, so as to have swallowed up one hundred villages, as the name imports: however, though they write its name *Satgauw*, I believe it should be *Sátgauw*, or the *seven villages*, because there were so many censurated to the Seven *Rishis*, and each of them had one appropriated to his own use.

Palura, now *Palorah*, or *Pollerah*, four or five miles to the west of *Oolbarya* below *Budge-budge*. A branch of the Ganges ran formerly to the west of it, and after passing by Naga-basan, or Nagam-bapan, fell into the sea towards Ingellee. From Nagam-basan the western branch of the Ganges

was

was denominated *Cambuſon Oſtium* by the Greeks. This place is now ridiculouſly called *Nanga-baſſan*, or the naked abode; whereas its true name is *Naga-baſan*, or the abode of ſnakes, with which the country abounds.

Sir WILLIAM JONES ſays, "the only difficulty in deciding the ſituation of "Palibothra to be the ſame as Patali-putra, to which the names and moſt cir- "cumſtances nearly correſpond, aroſe from hence, that the latter place ex- "tended from the confluence of the Sone and the Ganges to the ſite of Patna, "whereas Palibothra ſtood at the junction of the Ganges and the Erannoboas; "but this difficulty has been removed, by finding in a claſſical Sanſcrit book, "near two thouſand years old, that Hiranyabahee, or golden armed, which the "Greeks changed into Erannoboas, or the river with a lovely murmur, was, in "in fact, another name for the Sona itſelf, though *Megaſthenes*, from igno- "rance or inattention, has named them ſeparately" *Vide Aſiatic Reſearches, vol. IV. p.* 11.

But this explanation will not be found ſufficient to ſolve the difficulty, if Hiranyabaha be, as I conceive it is not, the proper name of a river; but an appellative, from an accident common to many rivers.

Patali-putra was certainly the capital, and the reſidence of the kings of Magadha or ſouth Behar. In the *Mudra Rácſhaſa*, of which I have related the argument, the capital city of *Chandra-Gupta* is called Cuſumapoor throughout the piece, except in one paſſage, where it ſeems to be confounded with Patali-putra, as if they were different names for the ſame place. In the paſſage alluded to, *Rácſhaſa* aſks one of his meſſengers, "If he had been at Cuſumapoor?" the man replies, "Yes, I have been at Patali-putra." But

Sumapon

Sumapon, or Phulwaree, to call it by its modern name, was, as the word imports, a pleaſure or flower garden, belonging to the kings of Patna, and ſituate, indeed, about ten miles W.S.W. from that city, but, certainly, never ſurrounded with fortifications, which *Annanta*, the author of the *Mudra Rácſhaſa* ſays, the abode of *Chandra-Gupta* was. It may be offered in excuſe, for ſuch blunders as theſe, that the authors of this, and the other poems and plays I have mentioned, written on the ſubject of *Chandra-Gupta*, which are certainly modern productions, were foreigners; inhabitants, if not natives, of the Deccan; at leaſt *Annanta* was, for he declares that he lived on the banks of the Godaveri.

But though the foregoing conſiderations muſt place the authority of theſe writers far below the ancients, whom I have cited for the purpoſe of determining the ſituation of Palibothra; yet, if we conſider the ſcene of action, in connexion with the incidents of the ſtory, in the *Mudra Rácſhaſa*, it will afford us clear evidence, that the city of *Chandra-Gupta* could not have ſtood on the ſite of Patna; and, a pretty ſtrong preſumption alſo, that its real ſituation was where I have placed it, that is to ſay, at no great diſtance from where Rajémehal now ſtands. For, firſt, the city was in the neighbourhood of ſome hills which lay to the ſouthward of it. Their ſituation is expreſſly mentioned; and for their contiguity, it may be inferred, though the preciſe diſtance be not ſet down from hence, that king Nanda's going out to hunt, his retiring to the reſervoir, among the hills near Patalcandara, to quench his thirſt, his murder there, and the ſubſequent return of the aſſaſſin to the city with his maſter's horſe, are all occurrences related, as having happened on the ſame day. The meſſengers alſo who were ſent by the young king after the diſcovery of the murder to fetch the body, executed their commiſſion and returned to the city

the

the ſame day. Theſe events are natural and probable, if the city of *Chandra-Gupta* was on the ſite of Raje-mehal, or in the neighbourhood of that place, but are utterly incredible, if applied to the ſituation of Patna, from which the hills recede at leaſt thirty miles in any direction.

Again, *Patalcandara* in Sanſcrit, ſignifies *the crater* of a volcano; and in fact, the hills that form the glen, in which is ſituated the place now called *Mootijarna*, or the *pearl dropping ſpring*, agreeing perfectly in the circumſtances of diſtance and direction from Raje-mehal with the reſervoir of Patalcandara, as deſcribed in the poem, have very much the appearance of a crater of an old volcano. I cannot ſay I have ever been on the very ſpot, but I have obſerved in the neighbourhood, ſubſtances that bore undoubted marks of their being volcanic productions: no ſuch appearances are to be ſeen at Patna, nor any trace of there having ever been a volcano there, or near it. *Mr. Davis* has given a curious deſcription of Mootijarna, illuſtrated with elegant drawings. He informs us there is a tradition, that the reſervoir was built by *Sultan Suja*: perhaps he only repaired it.

The confuſion *Ananta*, and the other authors above alluded to, have made in the names of Patali-putra and Bali-putra, appears to me not difficult to be accounted for. While the ſovereignty of the kings of Maghadha, or ſouth Bahar, was exerciſed within the limits of their hereditary dominions, the ſeat of their government was Patali-putra, or Patya: but *Janaſandha*, one of the anceſtors of *Chandra-Gupta*, having ſubdued the whole of Prachi, as we read in the *purânas*, fixed his reſidence at Bali-putra, and there he ſuffered a moſt cruel death from *Criſhna* and *Bala Rama*, who cauſed him to be ſplit aſunder. *Bala* reſtored the ſon, *Sahadéva*, to his hereditary dominions; and from that time the kings of Maghadha, for twenty-four generations, reigned peaceably at

Patna, until *Nánda* aſcended the throne, who, proving an active and enterpriſing prince, ſubdued the whole of Prachi; and having thus recovered the conqueſts, that had been wreſted from his anceſtor, probably re-eſtabliſhed the ſeat of empire at Bali-putra; the hiſtorians of Alexander poſitively aſſert, that he did. Thus while the kings of Palibothra, as *Diodorus* tells us, ſunk into oblivion, through their ſloth and inactivity, (a reproach which ſeems warranted by the utter ſilence obſerved of the poſterity of *Bala Rama* in the *puránas*, not even their names being mentioned;) the princes of Patali-putra, by a contrary conduct, acquired a reputation that ſpread over all India: it was, therefore, natural for foreign authors, (for ſuch, at leaſt, *Ananta* was,) eſpecially in compoſitions of the dramatic kind, where the effect is oftentimes beſt produced by a neglect of hiſtorical preciſion, of two titles, to which their hero had an equal right to diſtinguiſh him by the moſt illuſtrious. The author of *Sacontala* has committed as great a miſtake, in making Haſtinapoor the reſidence of *Duſhmánta*, which was not then in exiſtence, having been built by *Haſti*, the fifth in deſcent from *Duſhmánta*; before his time there was, indeed, a place of worſhip on the ſame ſpot, but no town. The ſame author has fallen into another error, in aſſigning a ſituation of this city not far from the river Malini, (he ſhould rather have ſaid the *rivulet* that takes its name from a village now called *Malyani*, to the weſtward of Lahore: it is joined by a new channel to the Ravy;) but this is a miſtake; Haſtinapoor lies on the banks of the old channel of the Ganges. The deſcendants of *Peru* reſided at Sangala, whoſe extenſive ruins are to be ſeen about fifty miles to the weſtward of Lahore, in a part of the country uninhabited. I will take occaſion to obſerve here, that *Arrian* has confounded *Sangala* with *Salgada*, or *Salgana*, or the miſtake has been made by his copyiſts. *Frontinus* and *Polyænus* have preſerved the true name of this place, now called *Calanore*; and cloſe to it is a deſerted village, to this day called

called *Salghéda*; its ſituation anſwers exactly to to the deſcription given of it by *Alexander's* hiſtorians. The kings of Sangala are known in the Perſian hiſtory by the name of Schangal, one of them aſſiſted *Afraſiab* againſt the famous *Cdicoſru*; but to return from this digreſſion to Patali-putra.

The true name of this famous place is, *Patali-pura*, which means the town of *Patali*, a form of *Devi* worſhipped there. It was the reſidence of an adopted ſon of the goddeſs *Patali*, hence called *Patali-putra*, or the ſon of *Patali*. Patali-putra and Bali-putra are abſolutely inadmiſſable, as Sanſcrit names of towns and places; they are uſed in that ſenſe, only in the ſpoken dialects; and this, of itſelf, is a proof, that the poems in queſtion are modern productions. Patali-pura, or the town of Patali, was called ſimply Patali, or corruptly Pattiali, on the invaſion of the Muſſulmans: it is mentioned under that name in Mr. *Dow's* tranſlation of *Ferijhta's* hiſtory. It is, I believe, the *Patali* of *Pliny*. From a paſſage in this author compared with others from *Ptolemy*, *Marcianus*, *Heracleota*, and *Arrian* in his *Periplus*, we learn that the merchants, who carried on the trade from the Gangetic Gulph, or Bay of Bengal, to Perimula, or Malacca, and to Bengal, took their departure from ſome place of rendezvous in the neighbourhood of Point Godavery, near the mouth of the Ganga Godavery. The ſhips uſed in this navigation, of a larger conſtruction than common, were called by the Greek and Arabian ſailors, *colandrophonta*, or in the Hinduſtani dialect, *coilan-di-pota*, *coilan boats or ſhips*: for *pota* in Sanſcrit, ſignifies a boat or a ſhip; and *di* or *da*, in the weſtern parts of India, is either an adjective form, or the mark of the genitive caſe. *Pliny* has preſerved to us the track of the merchants who traded to Bengal from Point Godavery.

They went to Cape Colinga, now Palmira; thence to Dandagula, now Tentu-gully, almoſt oppoſite to Fultati *; thence to Tropina, or Triveni and Trebeni, called Tripina by the Portugueſe, in the laſt century; and, laſtly, to Patale, called Patali, Patiali as late as the twelfth century, and now Patna. *Pliny* who miſtook this Patale for another town of the ſame name, ſituate at the ſummit of the Delta of the Indus, where a form of *Devi*, under the appellation of *Patali* is equally worſhipped to this day, candidly acknowledges, that he could by no means reconcile the various accounts he had ſeen about Patale, and the other places mentioned before.

The account tranſmitted to us of *Chandra-Gupta*, by the hiſtorians of *Alexander*, agrees remarkably well with the abſtract I have given in this paper of the *Mudra Rácſhaſa*. By *Athenæus*, he is called *Sandracoptos*, by the others *Sandracottos*, and ſometimes *Androcottos*. He was alſo called *Chandra* ſimply; and, accordingly, *Diodorus Siculus* calls him *Xandrames* from *Chandra*, or *Chandram* in the accuſative caſe; for in the weſtern parts of India, the ſpoken dialects from the Sanſcrit do always affect that caſe. According to *Plutarch*, in his life of *Alexander*, *Chandra-Gupta* had been in that prince's camp, and had been heard to ſay afterwards, that *Alexander* would have found no difficulty in the conqueſt of Prâchi, or the country of the Praſians had he attempted it, as the king was deſpiſed, and hated too, on account of his cruelty.

In the *Mudra Rácſhaſa* it is ſaid, that king *Nanda*, after a ſevere fit of illneſs, fell into a ſtate of imbecillity, which betrayed itſelf in his diſcourſe

* This is the only place in this eſſay not to be found in *Rennell*'s Atlas.

and

and actions; and that his wicked miniſter, *Sacatara*, ruled with deſpotic ſway in his name. *Diodorus Siculus* and *Curtius* relate, that *Chandram* was of a low tribe, his father being a barber. That he, and his father *Nanda* too, were of a low tribe, is declared in the *Viſhnu purána* and in the *Bhágavat Chandram*, as well as his brothers, was called *Maurya* from his mother *Mura*; and as that word * in Sanſcrit ſignifies a barber, it furniſhed occaſion to his enemies to aſperſe him as the ſpurious offſpring of one. The Greek hiſtorians ſay, the king of the Praſū was aſſaſſinated by his wife's paramour, the mother of *Chandra*; and that the murderer got poſſeſſion of the ſovereign authority, under the ſpecious title of regent and guardian to his mother's children, but with a view to deſtroy them. The *puránas* and other Hindu books, agree in the ſame facts, except as to the amours of *Sacatara* with *Mura*, the mother of *Chandra-Gupta*, on which head they are ſilent. *Diodorus* and *Curtius* are miſtaken in ſaying, that *Chandram* reigned over the Praſū, at the time of *Alexander's* invaſion: he was contemporary with *Seleucus Nicator*.

I ſuſpect *Chandra-Gupta* kept his faith with the Greeks or Yavans no better than he had done with his ally, the king of Nepal; and this may be the motive for *Seleucus* croſſing the Indus at the head of a numerous army; but finding *Sandro-coptos* prepared, he thought it expedient to conclude a treaty with him, by which he yielded up the conqueſts he had made; and, to cement the alliance, gave him one of his daughters in marriage †. *Chandra-Gupta* appears to have agreed on his part to furniſh

* See the *Jativiveca*, where it is ſaid, the offſpring of a barber, begot by ſtealth, of a female of the Sudra tribe, is called *Maurya*: the offſpring of a barber and a ſlave woman is called *Maurya*.

† *Strabo*, B. 45, p. 724,

Seleucus

Seleucus annually with fifty elephants; for we read of *Antiochus* the Great going to India, to renew the alliance with king *Sophagaſemus*, and of his receiving fifty elephants from him. *Sophagaſemus*, I conceive, to be a corruption of *Shivaca-Séna*, the grandſon of *Chandra-Gupta*. In the *puránas* this grandſon is called *Aſecavard-dhana* or *full of mercy*, a word of nearly the ſame import as *Aſéca-ſéna* or *Shivaca-ſéna*; the latter ſignifying *he whoſe armies are merciful do not ravage and plunder the country*.

The ſon of *Chandra-Gupta* is called *Allitrochates* and *Amitrocates* by the Greek hiſtorian. *Seleucus* ſent an ambaſſador to him; and after his death the ſame good intelligence was maintained by *Antiochus* the ſon or the grandſon of *Seleucus*. This ſon of *Chandra-Gupta* is called *Variſára* in the *puránas*; according to *Paraſara*, his name was *Dſuratha*; but neither the one nor the other bear any affinity to *Amitrocates*: this name appears, however, to be derived from the Sanſcrit *Mitra-Gupta*, which ſignifies *ſaved by Mitra* or *the Sun*, and therefore probably was only a ſurname.

It may be objected to the foregoing account, the improbability of a Hindu marrying the daughter of a Yavana, or, indeed, of any foreigner. On this difficulty I conſulted the Pundits of Benares, and they all gave me the ſame anſwer; namely, that in the time of *Chandra-Gupta* the Yavanas were much reſpected, and were even conſidered as a ſort of Hindus though they afterwards brought upon themſelves the hatred of that nation by their cruelty, avarice, rapacity, and treachery in every tranſaction while they ruled over the weſtern parts of India; but that at any rate the objection did not apply to the caſe, as *Chandra-Gupta* himſelf was a *Sudra*, that is to ſay, of the loweſt claſs. In the

Viſhnu-

Viſhnu-purána, and in the *Bhagawat*, it is recorded, that eight Grecian kings reigned over part of India. They are better known to us by the title of the Grecian kings of Bactriana. *Arrian* in his *Periplus*, enumerating the exports from Europe to India, ſets down as one article beautiful virgins, who were generally ſent to the market of Baroche. The Hindus acknowledged that, formerly, they were not ſo ſtrict as they are at this day; and this appears from their books to have been the caſe. *Strabo* does not poſitively ſay that *Chandra-Gupta* married a daughter of *Seleucus*, but that *Seleucus* cemented the alliance he had made with him by connubial affinity, from which expreſſion it might equally be inferred that *Seleucus* married a daughter of *Chandra-Gupta*; but this is not ſo likely as the other; and it is probable the daughter of *Seleucus* was an illegitimate child, born in Perſia after *Alexander's* conqueſt of that country.

Before I conclude, it is incumbent on me to account for the extraordinary difference between the line of the *Surya Varſas* or children of the ſun, from *Ichſwacu* to *Daſaratha-Rama*, as exhibited in the ſecond volume of the *Aſiatick Reſearches*, from the *Viſhnu-purana* and the *Bhagawat*, and that ſet down in the Table I have given with this Eſſay. The line of the *Surya Varſas*, from the *Bhagawat* being abſolutely irreconcileable with the anceſtry of *Arjuna* and *Chriſhna*, I had at firſt rejected it, but, after a long ſearch, I found it in the *Ramayen*, ſuch as I have repreſented it in the table, where it perfectly agrees with the other genealogies. *Daſaratha-Rama* was contemporary with *Paraſu-Rama*, who was, however the eldeſt; and as the *Ramayen* is the hiſtory of *Daſaratha-Rama*, we may reaſonably ſuppoſe, his anceſtry was carefully ſet down and not wantonly abridged. I ſhall now conclude this Eſſay with the following remarks:

I. It

I. It has been aſſerted in the ſecond volume of the *Aſiatick Reſearches*, that *Paraſara* lived about 1180 years before *Chriſt*, in conſequence of an obſervation of the places of the colures. But Mr. *Davis* having conſidered this ſubject with the minuteſt attention, authorizes me to ſay, that this obſervation muſt have been made 1391 years before the Chriſtian æra. This is alſo confirmed by a paſſage from the *Paraſara Sanhita* in which it is declared, that the *Udáya* or *heliacal* riſing of *canopus*, (when at the diſtance of thirteen degrees from the ſun, according to the Hindu aſtronomers,) happened in the time of *Paraſara*, on the 10th of *Cartica*; the difference now amounts to twenty-three days. Having communicated this paſſage to Mr. *Davis*, he informed me, that it coincided with the obſervation of the places of the colures in the time of *Paraſara*.

Another ſynchroniſm ſtill more intereſting, is that of the flood of *Deucalion*, which, according to the beſt chronologers, happened 1390 years before *Chriſt*. *Deucalion* is derived from *Déo-Calyún* or *Déo Caljún*: the true Sanſcrit name is *Déva-Cála-Yavana*. The word *Cála-Yavana* is always pronounced in converſation, and in the vulgar dialects *Cá-lyún* or *Káljún*: literally, it ſignifies the devouring *Yavana*. He is repreſented in the *puránas*, as a moſt powerful prince, who lived in the weſtern parts of India, and generally reſided in the country of *Camboja*, now *Gazni*, the ancient name of which, is *Saſni* or *Saſna*. It is true, they never beſtow upon him the title of *Déva*; on the contrary, they call him an incarnate *demon*: becauſe he preſumed to oppoſe *Crĭſhna*; and was very near defeating his ambitious projects; indeed *Crĭſhna* was nearly overcome and ſubdued, after ſeventeen bloody battles; and, according to the expreſs words of the *puránas*, he was forced to have recourſe to treachery: by which means *Cályún* was totally defeated in the eighteenth engagement. That his followers and deſcendants ſhould beſtow on him the title of *Déva*, or *Deo*,

is

is very probable; and the numerous tribes of Hindus, who, to this day, call *Crĭſhna*, an impious wretch, a mercileſs tyrant, an implacable and moſt rancorous enemy. In ſhort, theſe Hindus, who conſider *Crĭſhna* as an incarnate demon, now expiating his crimes in the fiery dungeons of the loweſt hell, conſider *Cályún* in a very different light, and, certainly, would have no objection to his being called *Deo-Cályún*. Be it as it may, *Deucalion* was conſidered as a *Dé'va* or *Deity* in the weſt, and had altars erected to his honour.

The Greek mythologiſts are not agreed about him, nor the country, in which the flood, that goes by his name, happened: ſome make him a Syrian; others ſay, that his flood happened in the countries, either round mount Etna, or mount Athos; the common opinion is, that it happened in the country adjacent to Parnaſus; whilſt others ſeem to intimate, that he was a native of India, when they aſſert that he was the ſon of *Prometheus*, who lived near Cabul, and whoſe cave was viſited by *Alexander*, and his Macedonians. It is called in the *puránas Garuda-ſi'han*, or the place of the *Eagle*, and is ſituated near the place called *Shibi*, in Major *Rennell's* map of the weſtern parts of India; indeed, *Pramathéſi* is better known in Sudia by the appellation of *Sheba* *. *Deo-Cályún*, who lived at Gazni, was obliged on the arrival of *Crĭſhna*, to fly to the adjacent mountains, according to the *puránas*; and the name of theſe mountains was formerly *Parmáſu*, from which the Greeks made *Parnaſus*; they are ſituated between Gazni and Peſhower. *Crĭſhna*, after the defeat of *Cályún*, deſolated his country with fire and ſword. This is called in Sanſcrit *Prálaya*; and may be effected by water, fire, famine, peſtilence, and war: but in the vulgar dialects, the word *Pralaya*, ſignifies only a

* *Bamian* (in Sanſcrit *Vamiyan*) and Shibr lay to the N.W. of Cabul.

flood or inundation. The legends relating to *Deo-Cályûn*, *Prometheus* and his *cave*, will appear in the next diſſertation I ſhall have the honour to lay before the Society.

II. *Megaſthenes* was a native of Perſia, and enjoyed the confidence of *Sibyrtius* *, governor of Arachoſia, (now the country of Candahar and Gazni,) on the part of *Seleucus*. *Sibyrtius* ſent him frequently on the embaſſies to *Sandrocuptos*. When *Seleucus* invaded India, *Megaſthenes* enjoyed alſo the confidence of that monarch, who ſent him, in the character of ambaſſador, to the court of the king of Prachi. We may ſafely conclude, that *Megaſthenes* was a man of no ordinary abilities, and as he ſpent the greateſt part of his life in India, either at Candahar or in the more interior parts of it; and, as from his public character, he muſt have been daily converſing with the moſt diſtinguiſhed perſons in India, I conceive, that if the Hindus, of that day, had laid claim to ſo high an antiquity, as thoſe of the preſent, he certainly would have been acquainted with their pretenſions, as well as with thoſe of the Egyptians and Chaldæans; but, on the contrary, he was aſtoniſhed to find a ſingular conformity between the Hebrews and them in the notions about the beginning of things, that is to ſay, of ancient hiſtory. At the ſame time, I believe, that the Hindus, at that early period, and, perhaps, long before, had contrived various aſtronomical periods and cycles, though they had not then thought of framing a civil hiſtory, adapted to them. Aſtrology may have led them to ſuppoſe ſo important and momentous an event as the creation muſt have been connected with particular conjunctions of the heavenly bodies; nor have the learned in Europe been entirely free from ſuch notions. Having once laid down this poſition,

* *Arrian*, B. 5. p. 203.

they

they did not know where to ſtop; but the whole was conducted in a moſt clumſy manner, and their new chronology abounds with the moſt groſs abſurdities; of this, they themſelves are conſcious, for, though willing to give me general ideas of their chronology, they abſolutely forſook me, when they perceived my drift in a ſtricter inveſtigation of the ſubject.

The loſs of *Megaſthenes'* works is much to be lamented. From the few ſcattered fragments, preſerved by the ancients, we learn that the hiſtory of the Hindus did not go back above 5042 years. The MSS. differ; in ſome we read 6042 years; in others 5042 and three months, to the invaſion of India by *Alexander*. *Megaſthenes* certainly made very particular enquiries, ſince he noticed even the months. Which is the true reading, I cannot pretend to determine; however, I incline to believe, it is 5042, becauſe it agrees beſt with the number of years aſſigned by *Albumazar*, as cited by Mr. *Bailly*, from the creation to the flood. This famous aſtronomer, whom I mentioned before, had derived his ideas about the time of the creation and of the flood, from the learned Hindus he had conſulted; and he aſſigns 2226 years, between what the Hindus call the laſt renovation of the world, and the flood. This account from *Megaſthenes* and *Albumazar*, agrees remarkably well with the computation of the *Septuagint*. I have adopted that of the *Samaritan Pentateuch*, as more conformable to ſuch particulars as I have found in the *puránas*; I muſt confeſs, however, that ſome particular circumſtances, if admitted, ſeem to agree beſt with the computation of the *Septuagint*: beſides, it is very probable, that the Hindus, as well as ourſelves, had various computations of the times we are ſpeaking of.

Megaſthenes informs us alſo, that the Hindus had a liſt of kings, from *Dionyſius* to *Sandrocuptos*, to the number of 153. Perhaps, this is not to be under-

ſtood of ſucceſſions in a direct line: if ſo, it agrees well enough with the preſent liſt of the decendants of *Nauſha*, or *Deo-Nauſh*. This is what they call the genealogies ſimply, or the great genealogy, and which they conſider as the baſis of their hiſtory. They reckon theſe ſucceſſions in this manner: from *Nauſha* to *Crĭſhna*, and collaterally from *Nauſh* to *Paricſhita*; and afterwards from *Jaraſandha*, who was contemporary with *Crĭſhna*. Accordingly the number of kings amounts to more than 153; but, as I wanted to give the full extent of the Hindu chronology, I have introduced eight or nine kings, which, in the opinion of ſeveral learned men, ſhould be omitted, particularly ſix, among the anceſtry of *Crîſhna*.

Megaſthenes, according to *Pliny* and *Arrian*, ſeems to ſay, that 5042 years are to be reckoned between *Dionyſius*, or *Deo-Nauſha*, and *Alexander*, and that 153 kings reigned during that period; but, I believe, it is a miſtake of *Pliny* and *Arrian*; for 153 reigns, or even generations, could never give ſo many years.

Megaſthenes reckons alſo fifteen generations between *Dionyſius* and *Hercules*, by whom we are to underſtand, *Crĭſhna* and his brother *Bala-Rama*. To render this intelligible, we muſt conſider *Nauſh* in two different points of view: *Nauſh* was at firſt a mere mortal, but on mount Meru he became a *Déva* or *God*, hence called *Déva-Nauſh* or *Deo-Nauſh*, in the vulgar dialects. This happened about fifteen generations before *Crĭſhna*. It appears that like the ſpiritual rulers of Tartary and Tibet (which countries include the holy mountains of Meru). *Deo-Nauſh* did not, properly ſpeaking, die, but his ſoul ſhifted its habitation, and got into a new body whenever the old one was worn out, either through age or ſickneſs. The names of three of the ſucceſſors of *Nauſha* have been preſerved by *Arrian*; they are *Spartembas*, *Budyas*, and *Cradevas*. The

firſt

firſt ſeems derived from the Sanſcrit *Prachinvau*, generally pronounced *Prachinbau*, from which the Greeks made *Spartembau* in the accuſative caſe; the two others are undubitably Sanſcrit, though much diſtorted, but I ſuſpect them to be titles, rather than proper names.

III. This would be a proper place to mention the poſterity of *Noah* or *Satyavrata*, under the names of *Sharma* or *Shama* (for both are uſed,) *Charma* and *Jyapti*. They are mentioned in five or ſix *purânas*, but no farther particulars concerning them are related, beſides what is found in a former eſſay on Egypt. In the liſt of the thouſand names of *Viſhnu*, a ſort of Litany, which Bráhmens are obliged to repeat on certain days, *Viſhnu* is called *Sharma*, becauſe, according to the learned, *Sharma* or *Shama*, was an incarnation of that deity. In a liſt of the thouſand names of *Siva*, as extracted from the *Padma-purána*, the 371ſt name is *Shama-Jaya*, which is in the fourth caſe, anſwering to our dative, the word *praiſe* being underſtood: *Praiſe* to *Sharmaja*, or *to him, who was incarnated in the houſe of Sharma*.

The 998th name is *Sharma-putradâya*, in the fourth caſe alſo, *praiſe to him who gave offspring to Sharma*. My learned friends here inform me, that it is declared in ſome of the *purânas*, that *Sharma*, having no children, applied to *Siva*, and made *Tapaſya*, to his honour. *Iſwara* was ſo pleaſed, that he granted his requeſt and condeſcended to be incarnated in the womb of *Sharma's* wife, and was born a ſon of *Sharma*, under the name of *Baleswara*, or *Iſwara* the infant. *Baleswara*, or ſimply *Iſwara*, we mentioned in a former eſſay on *Semiramis*; and he is obviouſly the *Aſſur* of Scripture.

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In another liſt of the thouſand names of SIVA (for there are five or ſix of them extracted from ſo many *purânas)* we read, as one of his names, BALESA ISA or ISWA'RA the *infant*. In the ſame liſt SIVA is ſaid to be VARAHI-PALACA, or he who *foſtered* and *cheriſhed* VARAHI, the conſort of VISHNU, who was incarnated in the character of SHARMA. From the above paſſages the learned here believe that SIVA, in a human ſhape, was legally appointed to raiſe ſeed to SHARMA during an illneſs thought incurable. In this ſenſe JAPHET certainly dwelt in the tents of SHEM. My chief *pandit* has repeatedly, and moſt poſitively, aſſured me, that the poſterity of SHARMA to the tenth or twelfth generation, is mentioned in ſome of the *purânas*. His ſearch after it has hitherto proved fruitleſs, but it is true, that we have been able to procure only a few ſections of ſome of the more ſcarce and valuable *purânas*. The field is immenſe, and the powers of a ſingle individual too limited.

IV. The ancient ſtatues of the gods having been deſtroyed by the Muſſulmans, except a few which were concealed during the various perſecutions of theſe unmerciful zealots, others have been erected occaſionally, but they are generally repreſented in a modern dreſs. The ſtatue of *Bala-Rama* at Mutra has very little reſemblance to the Theban *Hercules*, and, of courſe, does not anſwer exactly to the deſcription of *Megaſthenes*. There is, however, a very ancient ſtatue of *Bala-Rama* at a place called *Baladeva*, or *Baldeo* in the vulgar dialects, which anſwers minutely to his deſcription. It was viſited ſome years ago by the late Lieutenant STEWART, and I ſhall deſcribe it in his own words: "*Bala-Rama* or *Bala-deva* is repreſented *there* with a ploughſhare in his left hand with which he hooked his enemies, and in his right hand a thick cudgel, with which he cleft their ſculls; his ſhoulders are covered with the ſkin of a tyger. The village of Baldeo is thirteen miles E. by S. from Muttra."

Here

Here I ſhall obſerve, that the ploughſhare is always repreſented very ſmall ſometimes omitted; and that it looks exactly like a harpoon, with a ſtrong hook, or a *gaff*, as it is uſually called by fiſhermen. My *pandits* inform me alſo, that *Bala-Rama* is ſometimes repreſented with his ſhoulders covered with the ſkin of a lion.

XIX. RE-

XIX.

REMARKS ON THE NAMES OF THE *CABIRIAN DEITIES*, AND ON SOME WORDS USED IN THE MYSTERIES OF ELEUSIS.

BY CAPTAIN FRANCIS WILFORD.

IN the *Adhuta-cosa* we find the following legends, which have an obvious relation to the Deities worshipped in the mysteries of *Samothrace.*

In *Patala* (or the infernal regions) resides the sovereign queen of the *Nagas* (large snakes or dragons:) she is beautiful, and her name is ASYORUCA. There, in a cave, she performed *Tapasya* with such rigorous austerity, that fire sprang from her body, and formed numerous *agni-tiraths* (places of sacred fire) in *Patala.* These fires, forcing their way through the earth, waters, and mountains, formed various openings or mouths, called from thence the *flaming mouths*, or *juálá-muc'hi.* By SAMUDR (OCEANUS) a daughter was born unto her called RAMA'-DE'VÍ. She is most beautiful; she is LACSHMI; and her name is A'SYO'TCERSHA' or A'SYO'TCRISHTA. Like a jewel she remains concealed in the ocean.

The DHARMA-RAJA, or King of Justice, has two countenances; one is mild and full of benevolence; those alone who abound with virtue, see it. He holds a court of justice, where are many assistants, among whom are many just and pious kings: CHITRAGUPTA acts as chief secretary. These holy men determine what is *dharma* and *adharma*, just and unjust. His (*Dharma rajas*) ser-

vant is called CARMALA: he brings the righteous on celeſtial cars, which go of themſelves, whenever holy men are to be brought in, according to the directions of the DHARMA-RAJA, who is the ſovereign of the Pitris. This is called his *divine countenance*, and the righteous alone do ſee it. His other *countenance* or *form* is called YAMA; this the wicked alone can ſee. It has large teeth, and a monſtrous body. *Yama* is the lord of Patala; there he orders ſome to be beaten, ſome to be cut to pieces, ſome to be devoured by monſters, &c. His ſervant is called CASHMALA, who, with ropes round their necks, drags the wicked over rugged paths, and throws them headlong into hell. He is unmerciful, and *hard* is his heart: every body trembles at the ſight of him. According to MNASEAS, as cited by the ſcholiaſt of *Appollonius Rhodius*, the names of the Cabirian Gods were AXIEROS, or CERES, or the EARTH; AXIOCERSA or PROSERPINE; AXIOCERSOS or PLUTO; to whom they add a fourth called CASMILLUS, the ſame with the infernal MERCURY.

AXIEROS is obviouſly derived from *Aſyoruca*, or rather from *Aſyoru*, or *Aſyorus*; for ſuch is the primitive form; which ſignifies literally, *ſhe whoſe face is moſt beautiful.*

AXIOCERSA is derived from *Aſyotcerſa*, a word of the ſame import with the former, and which was the ſacred name of PROSERPINE. This is obviouſly derived from the Sanſcrit *Praſarparni*, or *ſhe who is ſurrounded by large ſnakes and dragons.* *Nonnus* repreſents her as ſurrounded by two enormous ſnakes, who conſtantly watched over her. She was raviſhed by *Jupiter* in the ſhape of an enormous dragon. She was generally ſuppoſed to be his daughter; but the Arcadians, according to *Pauſanius*, inſiſted that ſhe was the daughter of *Ceres* and *Neptune*; with whom the ancient mythologiſts often confound *Oceanus.*

As

As ſhe is declared, in the ſacred books of the Hindus, to be the ſame with *Lacſhmi*, her conſort of courſe is *Viſhnu*, who rules, according to the *puránas*, in the weſt, and alſo during the greateſt part of the night. In this ſenſe *Viſhnu* is the *Dis* of the weſtern mythologiſts, the *black Jupiter* of *Statius*; for *Viſhnu* is repreſented of a *black*, or *dark azure* complexion: *Pluto* or *Yama* is but a form of *Viſhnu*. The titles of *Dis* or *Ades* appear to me to be derived from *A'di* or *A'din*, one of the names of *Viſhnu*. When *Cicero* ſays *, *Terrena autem vis omnes atque natura*, DITI *patri dedicata eſt*; that is to ſay, That nature, and the powers or energy of the earth, are under the direction of *Dis*. This has no relation to the judge of departed ſouls, but ſolely belongs to *Viſhnu*.

AXIOCERSOS, or in Sanſcrit *A's'yotcerſa*, or *A's'yotcerſas*, was *Pluto* or *Dis*, and was meant for *Viſhnu*. *Viſhnu* is always repreſented as extremely beautiful; but I never found *A's'yotcerſa* among any of his titles: he is ſometimes called *Atcerſa*, a word of the ſame import.

CASHMALA' or CASHMALA's is obviouſly the *Caſmilus* of the weſtern mythologiſts. The appellation of *Cabiri*, as a title of theſe deities is unknown to the Hindus; and, I believe, by the Cabirian gods, we are to underſtand the gods worſhipped by a nation, a tribe, or a ſociety of men called *Cabires*. The *Cuveras* or *Cuberas*, as it is generally pronounced, are a tribe of inferior deities, poſſeſſed of immenſe riches, and who are acquainted with all places under, or above ground, abounding with precious metals and gems. Their hiſtory in the *puránas*, begins with the firſt *Menu*, and no mention is made in it of floods, at leaſt my learned friends tell me ſo. They are repreſented with *yellow eyes*,

* *Cic. De Natura Deorum.*

like the *Pingacſhas* (of whom we ſpoke in a former eſſay on Egypt,) and perhaps may be the ſame people; certain it is the *Pingacſhas* worſhipped the Cabirian gods. *Diodorus Siculus* ſays, that the invention of fire, and the working of mines was attributed to them; and we find a *Cabirus* repreſented with a hammer in his hand.

At the concluſion of the myſteries of ELEUSIS, the congregation was diſmiſſed in theſe words: Κογξ, Ὄμ, Παξ; *Conx, Om, Pax.* Theſe myſterious words have been conſidered hitherto as inexplicable; but they are pure Sanſcrit, and uſed to this day by Bráhmens at the concluſion of religious rites. They are thus written in the language of the Gods, as the Hindus call the language of their ſacred books, *Canſcha, Om, Pacſha.*

CANSCHA ſignifies the object of our moſt ardent wiſhes.

OM is the famous monoſyllable uſed both at the beginning and concluſion of a prayer, or any religious rite, like *Amen.*

PACSHA exactly anſwers to the obſolete Latin word *Vix:* it ſignifies change, courſe, ſtead, place, turn of work, duty, fortune. It is uſed particularly after pouring water in honour of the Gods and *Pitris.* It appears alſo from HESYCHIUS,

I. That theſe words were pronounced aloud at the concluſion of every momentous tranſaction, religious or civil.

II. That when Judges, after hearing a cauſe gave their ſuffrages, by dropping of pebbles of different colours into a box, the noiſe, made by each pebble

was

was called by one of theſe three words (if not by all three) but more probably, by the word *Pacſha*; as the *turn*, or *pacſha* of the voting judge, was over.

When lawyers pleaded in a court of juſtice, they were allowed to ſpeak two or three hours, according to the importance of the cauſe; and for this purpoſe, there was a *Clepſydras*, or *water clock* ready, which, making a certain noiſe at the end of the expired *pacſha*, *vix*, or *turn*, this noiſe was called *Pacſha*, &c.

The word *Pacſha* is pronounced *Vacſh* and *vact* in the vulgar dialects, and from it the obſolete Latin word *vix* is obviouſly derived. The *Greek* language has certainly borrowed largely from the Sanſcrit; but it always affects the ſpoken dialects of India; the language of the Latins in particular does, which is acknowledged to have been an ancient dialect of the Greek.

ACCOUNT

XX.

ACCOUNT OF THE
PAGODA AT PERWUTTUM.

EXTRACT OF A JOURNAL BY CAPTAIN COLIN MACKENZIE, COMMUNICATED BY MAJOR KIRKPATRICK.

THE Pagoda of Perwuttum, hitherto unknown to Europeans, is ſituated near the ſouth bank of the Kiſtna, in a wild tract of country, almoſt uninhabited, except by the Chinſuars, about

Horizontal diſtance { 65 miles W. of Inawada in Guntoor.
63 miles E. N. E. of Canoul.
And ſuppoſed to be 103 miles S. and ¼ E. of Hydrabad.

March 14th, 1794.—Having ſent notice to the manager of the revenues (the principal officers of the circar) that I was deſirous of ſeeing the Pagoda, provided there was no objection, I was informed at noon, that I might go in. The manager did not appear very deſirous of paying any of the common civilities, but the Bráhmens crowded round to conduct me into the place. On entering the ſouth gate, we deſcended by ſteps, and through a ſmall door, to the inner court, where the temples are: in the centre was the Pagoda of *Mallecarjee*, the principal deity worſhipped here. It is ſquare, and the roof is terminated by a pyramid of ſteps; the whole walls and roof on the outſide, are covered with braſs plates, which have been gilt, but the gilding is now worn off. Theſe plates are joined together by ſmall bars and ſockets, ſo that the whole may be taken off without damage; the ſpire or pyramid is not above thirty feet from the ground; the plates are plain,

plain excepting a few emboſſed figures of women, and ſome ſmall ornaments on the friezes of the doors, the pannels of which are alſo plated. A ſtatue with three legs is placed over each of the three entries; to ſupport this uncommon figure, a poſt is carried up, which, at firſt ſight, gives it the appearance of being empaled. On the weſt ſide of the pagoda inſcriptions are engraved very neatly on three ſheets of braſs plates. Oppoſite to the ſouth ſide, on a neat baſement and pedeſtal ornamented with brazen figures of cows, is a ſlender pillar about twenty-four or thirty feet high, entirely compoſed of braſs plates; it is bent; and from the joints, which plainly appear in the plating, it ſeems to be laid on a bamboo encloſed within. The four ſides of the pedeſtal are covered with inſcriptions, two in Gentoo or Tellinga, one in Grindam, and one in Naggerim: the firſt ſeven lines of the latter in large well defined characters, I copied; five ſmaller lines followed, which I could not copy ſo exactly, the character being ſmall, and the pedeſtal highly elevated. Some characters are alſo engraved on the fillet and ornamental parts of the moulding. From hence I was conducted to the ſmaller and more ancient temple of MALLECARJEE, where he is adored in the figure of a rude ſtone, which I could juſt diſtinguiſh through the dark viſta of the front building on pillars. Behind this building an immenſe fig tree covers with its ſhade the devotees and attendants, who repoſe on ſeats placed round its trunk and carpeted. Among theſe was one *Byraggy* who had devoted himſelf to a perpetual reſidence here; his ſole ſubſiſtence was the milk of a cow, which I ſaw him driving before him: an orange coloured rag was tied round his loins and his naked body was beſmeared with aſhes.

Some of the Bráhmens came in the evening, with a copy of the inſcriptions on two of the braſs plates: they profeſſed not to know exactly, the meaning

meaning of them, being, they ſaid, *Sanſcrittum Jigum.* The ſame ignorance of the language of their religious books, ſeems to prevail through all theſe countries. The Brâhmens in attendance here, are relieved at ſtated times, from Autcowr and other places, as this place is unwholeſome and the water bad. One of them ſaid, he had books at Autcowr, explanatory of the hiſtory of the Pagoda, and of the figures carved on the walls. Though they had never heard that any European had been here before, they did not expreſs any ſurpriſe at this viſit. Some of them applied for medical aid, but no fever prevailed among them at that time.

During the troubles of *Sevi-row*, the Chinſuars occupied the Pagoda, who ſtripped it of ſome ornaments and damaged it. Since *Sevi-row* had ſubmitted, the revenues derived from the reſort of pilgrims, are collected for the *canoul circar* by a manager or aumildar, who reſides within the encloſure, as do the ſebundies and peons, ſtationed here to protect the pilgrims, who come from all parts at certain ſtated feſtivals.

The red colour, that predominates in the rock of this country, (which is a granite,) is very remarkable. The ſuperſtratum, which, in many places, forms the naked ſuperfices of the ſoil, is of a black colour, and from the ſmooth ſhining ſurface it frequently exhibits, appears to have been formerly in a ſtate of fuſion, but goes to no great depth; the next ſtratum is compoſed of grains of a reddiſh colour, mixed with others of a white ſhining quartz, in greater proportion and of a larger ſize, ſo as to give the ſtone, when quarried, a greyiſh colour, which is more obſervable after it has been cut or chiſſeled. Iron is found in ſeveral parts of this mountainous tract, and ſo are diamonds, but the labour is ſo great, and the chance of meeting with the veins ſo very uncertain,

that the digging for them has been long diſcontinued; the following places were mentioned as producing them, viz.

1. *Saringamutta*, near *Jatta Reow*, on the other ſide the *Kiſtna*, where the ferry and road to *Amirabad* croſſes. N. B. A Pagoda here.

2. *Routa Pungala*, two parous diſtant, near *Pateloh Gunga*.

3. *Goſſah Reow*, twelve parous down the river. N. B. a ferry or ford there. After the heavy rains, when the rivers fall, they are found ſometimes in the beds. This place is near the ruins of *Chundra-goompty-putnam*, formerly a great town on its north bank, and now belonging to *Amraritty*.

The weather being warm, I was deſirous of getting over as much of this bad road as I could before noon: my tents and baggage had been ſent off at four, A. M. and I only remained at the Pagoda, with the intention of making ſome remarks on the ſculptures of its wall as ſoon as day light appeared. But the Bráhmens with the *Rajpoot amuldar* (who had hitherto ſhewn a ſhhineſs that I had not experienced in any other parts of the journey,) came to requeſt, that, as I was the firſt European, who had ever came ſo far, to viſit *Mallecarjee* and had been prevented from ſeeing the object of their worſhip, by yeſterday not being a lucky day, I would remain with them that day, aſſuring me, that the doors would be opened at ten o'clock. I agreed to wait till that hour, being particularly deſirous of ſeeing, by what means, the light was reflected into the temple, which the unſkilfulneſs of my interpreter could not explain intelligibly to my comprehenſion. Notice being at laſt given, at about half paſt eight, that the ſun was high enough, the doors on the eaſt ſide the gilt Pagoda were thrown open, and a mirror, or reflecting ſpeculum, was brought from the *Rajpoot amuldar's*

anuldar's houſe. It was round, about two feet in diameter, and fixed to a braſs handle, ornamented with figures of cows; the poliſhed ſide was convex, but ſo foul that it could not reflect the ſun beams; another was therefore brought, rather ſmaller and concave, ſurrounded by a narrow rim and without a handle. Directly oppoſite to the gate of the Pagoda is a ſtone building, raiſed on pillars, encloſing a well, and ending in a point; and, being at the diſtance of twelve or fourteen feet, darkens the gateway by its ſhadow, until the ſun riſes above it: this, no doubt, has been contrived on purpoſe to raiſe the expectation of the people, and by rendering the ſight of the idol more rare, to favour the impoſition of the Bráhmens. The moment being come, I was permitted to ſtand on the ſteps in front of the threſhold without, (having put off my ſhoes, to pleaſe the directors of the ceremony, though it would not have been inſiſted on,) while a crowd ſurrounded me, impatient to obtain a glimpſe of the aweful figure within. A boy, being placed near the door-way, waved and played the concave mirror, in ſuch a manner, as to throw gleams of light into the Pagoda, in the deepeſt receſs whereof was diſcovered, by means of theſe coruſcations, a ſmall, oblong, roundiſh white ſtone, with dark rings, fixed in a ſilver caſe. I was permitted to go no farther, but my curioſity was now ſufficiently ſatisfied. It appears, that this god *Mallicarjee* is no other than the *Lingam*, to which ſuch reverence is paid by certain caſts of the Gentoos; and the reaſon why he is here repreſented by ſtones unwrought, may be underſtood from the Bráhmens' account of the origin of this place of worſhip. My interpreter had been admitted the day before into the *ſanctum ſanctorum*, and allowed to touch the ſtone, which he ſays is ſmooth, and ſhining, and that the dark rings or ſtreaks are painted on it; probably it is an agate, or ſome other ſtone of a ſilicious kind, found near ſome parts of the Kiſhna, and of an uncommon ſize. The ſpeculums were of a whitiſh metal, probably a mixture of tin and braſs.

Theſe arts, deſigned to impoſe on the credulity of the ignorant ſuperſtitious crowd, ſeem to have been cultivated ſucceſsfully here, and the difficulties attending the journey, with the wild gloomy appearance of the country, no doubt, add to the aweful impreſſion made on their minds.

The Brâhmens having given me the following account of the origin of the Pagoda, I inſert it here, as it may lead to farther enquiry, and by a compariſon with other accounts, however diſguiſed by fable or art, ſome light may be thrown on the hiſtory, and manners of a people ſo very intereſting.

" At Chundra-gumpty-patnum, twelve parous down the river on the north " ſide, formerly ruled a Raja of great power, who, being abſent ſeveral years " from his houſe, in conſequence of his important purſuits abroad, on his re- " turn fell in love with his own daughter, who had grown up during his long " abſence. In vain the mother repreſented the impiety of his paſſion: pro- " ceeding to force, his daughter fled to theſe deſerts of Perwattum, firſt utter- " ing curſes and imprecations againſt her father; in conſequence of which, his " power and wealth declined; his city, now a deſerted ruin, remains a monu- " ment of divine wrath; and himſelf, ſtruck by the vengeance of Heaven, lies " deep beneath the waters of Puttela-gunga, which are tinged green by the " ſtring of emeralds that adorned his neck." Here is a fine ſubject for a fable; it may, however, furniſh a clue to hiſtory, as the ruins of this once opulent city are ſtill ſaid to exiſt. This account of the origin of the devotion here, bears a great reſemblance to that of the pilgrimage to Mouſerrat in Catalonia, mentioned in *Baretti's* travels.

" The princeſs was called *Mallica-davi*, and lived in this wilderneſs. Among " her cattle, was a remarkably fine black cow, which ſhe complained to her " herdſmen,

" herdſmen, never gave her milk. He watched behind the trees, and ſaw the " cow daily milked by an unknown perſon. *Malica-Divi* informed of this, " placed herſelf in a convenient ſituation, and beholding the ſame unknown " perſon milking the cow, ran to ſtrike him with an iron rod or mace, which " ſhe held in her hand ; but the figure ſuddenly diſappeared, and to her aſtoniſh- " ment, nothing remained but a rude ſhapeleſs ſtone. At night the god ap- " peared to her in a dream, and informed her, he was the perſon that milked " the cow ; ſhe, therefore on this ſpot, built the firſt temple that was conſecrated " to the worſhip of this deity repreſented by a rude ſtone." This is the ſe- cond temple that was ſhewn yeſterday, where he is exhibited in the rude ſtate of the firſt diſcovery, and is called *Mudi-Mulla-Carjee* or *Mallecarjee* ; the other temples were afterwards built in later times, by Rajas and other opulent perſons. The lingam, ſhewn by reflected light in the gilded temple, has alſo its hiſtory and ſtories, ſtill more abſurd and wonderful, attached to it. It was brought from the (now deſerted) city of Chundra-goompty-patnam. The princeſs, now worſhipped as a goddeſs, is alſo called *Brama-Rumbo*, or *Strichillum-Rumbo*, from whence this Pagoda is called *Strichillum*. She delights peculiarly in Perwuttum, but is called by eighteen other names.

It may be proper here, to take notice of the carvings on the outer walls, as they are remarkable for their number, and contain leſs of thoſe monſtrous figures than other buildings of this kind. It would appear that the ſtories repreſented on ſeveral diviſions, or compartments, are deſigned to impreſs on the mind ſome moral leſſon, or to heighten the reverence inculcated for the object of adoration here. The cuſtoms and manners of the Gentoos ; their arms, dreſs, amuſements, and the parade and ſtate attendant on their ſovereigns, in former times, might be elucidated by a minute inſpection of the figures repreſented

ſented on the walls; drawings of which, and tranſlations of, or extracts from, any books or inſcriptions, that might be found, having relation to them, would be uſeful to that end.

The ſeveral Pagodas, Choultries, and Courts, are encloſed by a wall 660 feet long and 510 feet broad. In the centre of this incloſure are the more ancient buildings already deſcribed, below the level of the principal gate. A road or avenue, twenty-four feet broad, goes parallel without to this wall, from whence is a deſcent by ſteps to gardens on the north ſide; from the eaſt gate a double colonade runs, 120 yards, forming a ſtreet; an oblong tank is on the weſt ſide, from which water was conducted to reſervoirs in the gardens, but theſe are now entirely neglected; the town or pettah covered the ſouth ſide, and the S. E. angle; the form of the incloſure is an oblong ſquare, with one ſquare projection to the weſt. The great gateways are, as uſual, ſupported by ſtone pillars, leaving apartments for the guard on each ſide the entrance: they are covered with ſpires of brick work; and this, with the pillar between, being retired ſome feet within the line of walls, ſhews that they are of more modern conſtruction, though the ſpires are rather ruinous: and it may be proper to remark, that theſe brick ſpires, formed of ſeveral ſtories with ſmall pilaſters, of no regular order, and the niches ornamented with figures in plaiſter, ſeem to be the lateſt invention uſed in the Pagodas, thoſe with pyramidal roofs, ſtep-faſhion, and the ſummit crowned, ſometimes by a globe, are more ancient and of ſeveral ſizes, ſo low as four feet in height; built of ſtone, and ſeem to be the firſt improvement on the early rude temples of rough ſtones ſet up on end to cover the image of the god. Theſe firſt attempts are frequently ſeen among the hills. The wall of the incloſure is built of hewn blocks of the greyiſh ſtone, from ſix to ſeven feet long by three high, exactly ſquared and laid together, and about eight or nine rows of theſe, from the level of the interior pavement,

pavement, leaves its height, from twenty-four varied to twenty-ſeven feet; the whole of the wall on the outſide (being 2,100 feet by twenty-four, allowing 240 for the opening of the gates and ſquare projection on the weſt ſide) is covered with carvings and figures ſculptured out of the block. Every ſingle block has a rim, or border, raiſed round it, within which, the carving is raiſed on a level with the rim, deſigned evidently, to protect the figures from injury, while raiſed upon the wall.

The firſt and loweſt row of theſe ſtones is covered with figures of elephants, harneſſed in different ways, as if led in proceſſion, many of them twiſting up trees with their trunks.—2nd. The ſecond row is chiefly occupied with equeſtrian ſubjects; horſes led ready ſaddled and their manes ornamented, others tied up to pillars, ſome looſe; a great many horſemen are repreſented, engaged in fight, at full gallop, and armed with pikes, ſwords, and ſhields; others are ſeen hunting the tyger, and running them through with long ſpears. The riders are repreſented very ſmall in proportion to the horſes, probably to diſtinguiſh the ſize of the latter, as a ſmaller caſt ſeems intended to be repreſented among the led horſes, where a few are ſeen lower in ſize, ſomething reſembling the Acheen breed of horſes. All theſe figures are very accurately deſigned. It is remarkable, that ſeveral figures are repreſented galloping off as in flight, and at the ſame time drawing the bow at full ſtretch; theſe Parthian figures ſeem to have entirely dropped the bridle, both hands being occupied by the bow; ſome of them are ſeen advancing at full ſpeed, and drawing the bow at the ſame time. This mode appears to have been practiſed by the Indians, as it is highly probable, that the arts of common life only, are here repreſented in the lower row.—3d. On the third row, a variety of figures are repreſented, many of them hunting pieces; tygers (and in one place a lion) attacked by ſeveral perſons; crowds

crowds of people appear on foot, many armed with bows and arrows, like the Chinſuars; many figures of Byrraggies or Jogies are ſeen diſtinguiſhed by large turbans, carrying their ſticks, pots, and bundles, as if coming from a journey; ſome leaning on a ſtick as if tired, or decrepid from age; others approaching with a mien of reſpect and adoration.—The fourth, fifth, ſixth, and ſeventh rows, are filled (as it would appear from the ſcanty information I was able to obtain) with repreſentations of ſeveral events regarding the deities of the place, or expreſſive allegories of the moral and religious dogmas of the Bráhmens; and probably ſome may record particular events of real hiſtory.—The eighth has fewer carvings than the reſt, ſome ſtones are occupied by a ſingle flower of large ſize, perhaps intended for the ſacred flower *(lotos)*: and ſome, though but a few, by the figure of a god.—The ninth, or upper row, is cut into openings, in the manner of battlements, and the ſtones, between each of theſe apertures, are alternately ſculptured with the figures of the Lingam, and a cow ſhaded by an umbrella, to ſignify its pre-eminence.

To examine the particular groups repreſented, would have taken up much more time than I could ſpare, but I particularly noticed the following: 1ſt, a figure with five heads, weighing two figures in a balance: one of them appears to have a little out-balanced the other. From what I could underſtand from the Bráhmens, this was meant for BRA'HMA weighing *Viſhnu* and *Siva*, or *Sulramica*; the latter is heavieſt. This alludes to the different ſects, or followers of *Viſhnu* and *Siva*. Another figure alſo repreſented two perſons weighed in a balance, both equal, but the explanation of this I could not learn.

2nd. Several people pulling at the head and tail of a great ſnake, which

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is twiſted round a *Lingam.* This I had ſeen carved on the walls of the pagoda of *Wentigmetta,* near *Sidout,* in September 1792.

3d. Elephants treading a man under foot.

4th. A naked figure of a woman approaching the *Lingam:* in her left hand ſhe holds the ſmall pot uſed for ablution; in her right a ſtring of beads *(Ingam valu):* a hand appears iſſuing from the *Lingam.*

The *Bráhmens* explained the meaning of this ſculpture, "ACUMA DEVI "naked, approaching to worſhip the *Lingam*; a hand appears ſuddenly from "it, waving, and a voice is heard, forbidding her to approach in that indecent "ſituation." A maxim of decency, in the height of religious zeal is here inculcated.

5th. The ſtory of MALLECARJEE and the ſacred cow (the origin of the pagoda) is repreſented in two different places. The cow appears with its udder diſtended over the *Lingam,* which differs from the account of the *Bráhmens* in not being repreſented as a rough ſtone; a perſon near a tree is ſeen, as if looking on; a kind of diviſion ſeems to ſeparate theſe figures from a woman, in a ſitting poſture, with an umbrella held over her, to denote ſuperior rank; on the right behind a tree, is a figure very indiſtinct, probably intended to repreſent the herdſman: the trees are badly executed.

6th. Among the number of animals in the proceſſion on the ſecond hand third row, two camels are repreſented with a perſon on each, beating the *nagra,* or great drum.

7th. In one compartment the figure of an alligator, or crocodile, with its ſcales and monſtrous teeth is ſeen, running open mouthed, to devour a perſon lying before it; two women are ſtanding near a third ſeated; they are looking on a child near them. I got no explanation of this.

8th. An elephant and tyger fighting.

The ſculptures on the ſouth and eaſt ſides are in good preſervation; thoſe on the weſt and north are more injured by the weather. The age of the firſt temple might perhaps be diſcovered from the inſcriptions, if a tranſlation of them could be obtained. I could gain no information on this head; but I ſuſpect the building be of higher antiquity than the knowledge, or, at leaſt, than the uſe of gunpowder among theſe people; becauſe among ſo great a variety of arms as are ſculptured upon the walls, ſwords, bows, pikes, arrows, and ſhields of a round figure, the matchlock is not be found, though a weapon ſo much in uſe among the *poligars*. On enquiring of the *Bráhmens* the meaning of theſe carvings, one of them replied, "it was to ſhew how the Gods lived above;" but indeed they ſeem to have loſt all traces of any knowledge they may have formerly poſſeſſed, and to be ſunk into the profoundeſt ſtate of ignorance.

XXI. RE-

XXI.

REMARKS ON THE PRINCIPAL ÆRAS AND DATES OF THE ANCIENT HINDUS.

BY MR. JOHN BENTLEY.

THE confuſion and darkneſs that pervade and overſpread the *Hindu* chronology, I am inclined to think, proceed from two different cauſes: the one, owing to the fancy of their *Bráhmens* and poets, in diſguiſing and embelliſhing their hiſtory with allegory and fiction; the other, to the ignorance of the modern *Hindus*, who, not able to diſcern the difference between the ſeveral æras and modes of dating, which were made uſe of by their ancient hiſtorians, *Bráhmens*, and poets, in recording paſt events, have blended the whole together, into one maſs of abſurdity and contradiction.

At this day, it is not eaſy to diſcover the meaning of all the different modes of dating formerly in uſe. It appears, however, from hiſtorical facts, that they were moſtly, if not all *nominally* the ſame, but eſſentially different in other reſpects:—they all went under the appellation of *yugs*, divine ages, *Manwantaras*, &c. but the *yugs*, divine ages, *Manwantaras*, &c. of the aſtronomers were different in point of duration from thoſe of the *Bráhmens* and poets, and thoſe of the *Bráhmens* and poets were, in like manner, different from thoſe of others: hence it becomes abſolutely neceſſary that we know the difference between each, that is, the aſtronomic, the poetic, &c. &c. from each other before we can attempt to analyze the *Hindu* chronology on true principles. It is from this mode alone that we can diſcern truth though diſguiſed by fiction; and, until the gordian knot, made faſt by the hand of modern times, be untied, much will remain in obſcurity.

The aſtronomic *yugs*, divine ages, &c. are the only periods in which the real number of years meant, are not concealed: it may not therefore be improper before I proceed farther to ſtate what theſe periods are, and their duration.

The *Calpa* is the greateſt of all the aſtronomical periods, and the duration of it is 4320000000 years. This period is compoſed, or made up, of the leſſer *yugs*, &c. in the following manner.

4 *Yugs*, viz. a *Satya*, a *Treta*, a *Dwapar*, and a *Cali yug*, make one divine age or *Maha yug*; 71 *Maha yugs* with a *Sandhi*, equal to a *Satya yug*, make 1 *Manwantara*; and 14 *Manwantaras* compoſe a *Calpa*, at the commencement of which there is alſo a *Sandhi*, equal to a *Satya yug*. The duration of each period is as follows:

Sandhi at the beginning of the *Calpa* - - -		1728000
Satya yug - - - -	1728000	
Treta yug - - - -	1296000	
Dwapar yug - - - -	864000	
Cali yug - - - - -	432000	
One divine age or *Maha yug* - -	4320000	
71 *Maha yugs* - - -	306720000	
Add a *Sandhi* - - - -	1728000	
A *Manwantara* - - -	308448000	
14 *Manwantaras* - - - - -		4318272000
A *Calpa*, or a grand period - - -		4320000000

The *Calpa* is an anomaliſtic period, at the end of which the *Hindu* aſtronomers ſay that the places of the planet's nodes and apſides will be preciſely

preciſely the ſame as at the beginning of it; and the comencement of it was when the ſun, moon, and all the planets, nodes and apſides, were in a line of conjunction, in the beginning of Aries, or 1955,884,897 years ago: therefore ſix *Manwantaras*, 23 *Maha yugs* of the ſeventh *Manwantara*, and as far as the 220897th year of the *Cali yug*, of the twenty-fourth *Maha yug*, are now (A° 1796) expired of the *Calpa*. The ancient aſtronomers, moſt probably, for the ſake of convenience, made the preſent *Cali yug* of the *Hindus*, of which there are now 4897 years expired, to commence when juſt the firſt half, or 216000 years were elapſed of the above mentioned *Cali yug*, of the twenty-fourth *Maha yug*; and we are now only in the 4898th year of the ſecond half of that period. I ſhall therefore by way of diſtinction, call the preſent *Cali yug* the "Aſtronomic Æra."

The *Bráhmens* and poets, in imitation of the aſtronomic periods above given, invented others for their hiſtory and poetry. Theſe I ſhall diſtinguiſh by the name of "Poetic Ages," or æras, becauſe they are embelliſhed by fiction, and covered over with a myſterious veil: *nominally*, they appear the ſame as the aſtronomic periods, but hiſtorical facts prove them to be eſſentially different in point of duration; one aſtronomic year being equal to 1000 poetic ones: hence

A Poetic *Satya yug*	of	1728000	years is only	1728 real years
Treta yug	of	1296000	-	1296
Dwapar yug	of	864000	- -	864
Cali yug	of	432000	- -	432

The firſt of theſe Poetic Ages, or Satya yug, commenced at the creation and the reſt in ſucceſſion, agreeable to the following ſhort chronological table, continued down to the preſent time.

CHRONO-

CHRONOLOGICAL TABLE OF ANCIENT ÆRAS, &c.

	Poetical Æras.	*Year of the World.*		*Astronomic Æra.*	
Satya Yug, or Golden Age.	0	ADAM	0	CALI YUG	0
	1		1	*	1
	130	SETH born	130		151
	905		905		751
	906		906		823
	1056	NOAH born	1056		824
	1656	Flood	1656		882
	1728		1728	PRADYOTA	1000
			1729	BUDHA I.	1002
Treta Yug, or Silver Age.	1	NIMROD	1787		1043
	59		1905		1101
	177		1907	SISUNGA	1139
	ICSCHWACHU and BUDHU 179	ABRAHAM	1948	NANDA	1499
		NOAH's death	2006	CHANDRA GUPTA	1599
	220		2044	PUSHPAMITRA	1736
	278		2404	VASUDEVA	1848
	316		2504		1853
	676		2641		1920
	776		2753		1920
	913		2758		1925
	1025	PARASARA	2825		1930
	RAMA 1030	YUDHISHTHIR	2825		2075
	1097	VYASA	2830		2119
	1097	PARICSHIT	2835		
	VALMIC 1102		2980		
	1107		3024		
	1152				
	1296				

* The *Cali yug* commenced in February, in the 906th year of the world.

CHRO-

CHRONOLOGICAL TABLE OF ANCIENT ÆRAS, &c. continued.

	Poetical Æras.		*Year of the World.*		*Astronomic Æra.*	
Dwapar Yug, or Brazen Age.	CUSHA	1		3025		2120
		74		3098	BALIN	2193
		530		3554	CHANDRABIJA	2649
		576		3600		2695
		676		3700		2795
		776		3800		2895
		864		3888		2983
				3889		2984
Cali Yug, or Iron Age.		1		3950	VICRAMADITYA	3045
		62		3983	DEVAPALA	3078
		95	CHRIST	4007		3102
		119		4073	NARAYANPALA	3168
		185		4085	SACA	3180
		197		4088		3183
		200		4188		3283
		300		4320		3415
		432		4321		3416
				4505	VARAHA	3600
Satya Yug, or the IId Divine Age.		1		4520		3615
		185		4624		3715
		200		4720		3815
		300		4920		4015
		400		5120		4215
		600		5320		4415
		800		5520		4615
		1000				
		1200				
	Current year	1483	Current year	5803	Current year	4898

In

In the preceding table, I have placed the beginning of the aſtronomic æra of the *Cali yug*, of which 4897 years were expired in *April* laſt in the 906th year of the world; at which time 905 years were elapſed of the *Satya yug* of the Poets, reckoning from its commencement at the Creation: hence it is ſelf-evident that the notion of the modern *Hindus*, who have confounded the fabulous or fictitious ages of their Poets with the aſtronomic periods merely from a ſimilarity of names, are not only erroneous, but even quite oppoſite to the true intent and meaning of the ancient *Hindu* writers themſelves; who, it may be proved, have ſometimes adopted the aſtronomic æra of the *Cali yug*, during the periods of the *Treta* and *Dwapar yugs* of the Poets, and made uſe of either æra, (aſtronomic or poetic, and ſometimes both), according as it ſuited their fancy, for recording not only paſt events in general, but even one and the ſame event.

The firſt inſtance I ſhall mention by way of proof is that of BUDHA the ancient MERCURY of the *Hindus*. The late Sir WILLIAM JONES, whoſe name can never be mentioned but with higheſt eſteem, places the ancient BUDHA, or MERCURY who married ILA a daughter of NOAH about the beginning of the *Treta yug*; contemporary with JISC'HWACU the ſon of NOAH. Now the *Hindus* in general, and the *Bhagawatamrita* in particular, ſay that "BUDHA be-"came viſible the 1002d year of the *Cali yug*" (aſtronomic æra): let us therefore examine this matter a little, and ſee whether this is not the ſame BUDHA who is recorded as living near the beginning of the *Treta yug* of the Poets; contemporary with the ſon of NOAH. Firſt the 1002d year of the *Cali yug* was the 1907th from the Creation. Secondly, NOAH by the *Moſaick* account, did not die before the 2006th year from the Creation or about 100 years after the appearance of BUDHA. Thirdly, and laſtly, there was but one BUDHA in the time

time of NOAH; and he is ſaid to have married ILA, the daughter of NOAH: hence we may ſafely infer, that the BUDHA, who appeared in the 1002d year of the Cali yug, or 1907 of the Creation, was the very ſame that married Noah's daughter, and is recorded as living near the beginning of the Treta yug of the Poets. Here we may plainly ſee, that the events, as well as the time, perfectly coincide; for the 1002d year of the Cali yug correſponds not only with the latter days of NOAH, but alſo with the 179th year of the Treta yug of the poets, as may be ſeen from the preceding table.

I ſhall now mention another inſtance, which, while it confirms what I have above ſaid, reſpecting the ancient *Hindu* writers or hiſtorians, adopting the aſtronomic æra of the Cali yug, at different times during the periods of the Treta and Dwapar yugs of the Poets, will at the ſame time explain the cauſe of all the confuſion and abſurdities which at preſent appear in the ancient hiſtory and chronology of the *Hindus*.

VALMIC and VYASA were two ancient contemporary bards, whom the modern *Hindus* ſeparate by no leſs a period than 864000 years, believing VALMIC to have lived near the cloſe of the Treta yug, and VYASA near the cloſe of the Dwapar yug; and though they cannot but admit that the two bards had frequently converſed together on the ſubject of their poems, yet they will rather account for it by ſuppoſing a miracle, than aſſign any real or probable cauſe for an abſurdity, ſo contradictory, not only to nature, but to common ſenſe.

VYASA was the ſon of PARASARA, an ancient aſtronomer, and PARASARA was the grandſon of VASISHTHA, who was alſo an aſtronomer, and *piaboita* or family prieſt to RAMA, king of *Audhya* or *Oud*, who

reigned, according to the Hindu accounts near the close of the Treta yug of the Poets. PARASARA, the father of VYASA, was therefore about one or two generations after RAMA. But, from the observed places of the equinoxes and solstices in the year 3600 of the present Cali yug, by one VARAHA, an astronomer, and their places as mentioned by PARASARA, it would appear, that the observations of the latter must have been about 1680 years before VARAHA; which will therefore place PARASARA about the year 2825 of the world, corresponding to the 1097th of the Treta yug of the Poets; and as PARASARA may have been then between thirty and forty years old, we may place RAMA about the year 1030; and VALMIC and VYASA about the year 1102 of the Treta yug of the Poets, being the 2830th of the Creation. These years may not be the exact times in which they respectively lived; but, I believe, they do not vary from the truth above forty or fifty years either way, and nearer than this we cannot well expect to bring them.

By having thus obtained the respective times or years in which RAMA, PARASARA, VYASA, and VALMIC lived, we have ascertained a point of the utmost importance to the chronology of the Hindus.

The war of MAHABARAT took place in the time of VYASA, in consequence of which he wrote his epic poem called the *Mahabarat*, and on the composition of which he consulted VALMIC. VYASA was therefore contemporary with CHRISHNA, ARJUN, ABHIMARIYIR, YUDHISHTHIR, PARICSHIT, and others engaged in that famous war.

Shortly after that war, and towards the close of the reign of PARICSHIT, the Hindu historians of that part of India, where PARICSHIT reigned, began

began to lay aſide the Poetic æras altogether, and to adopt the aſtronomic æra of the *Cali yug*, of which near 2000 years were then expired.

This circumſtance of laying aſide the poetic æras, and adopting the aſtronomic, it ſeems in the courſe of ten or twelve centuries after became either totally forgotten, or miſunderſtood, ſo much ſo in fact, that the very adoption of the aſtronomic æra has been taken, by the modern *Hindus* for the actual beginning of the *Cali yug* itſelf. This erroneous notion, together with thoſe which they entertained reſpecting the duration of the different ages, the *Satya*, *Treta*, and *Dwapar yugs* of their poets, which they firmly believe to be the ſame with the aſtronomic periods of the ſame name, and to have ended accordingly before the preſent *Cali yug* commenced, has been the cauſe of all the confuſion which appear in their ancient hiſtory and chronology. For finding the immediate ſucceſſor of PARICSHIT mentioned in ancient hiſtory as reigning in the *Cali yug*, they concluded, though erroneouſly, that PARICSHIT muſt therefore have reigned at the cloſe of the *Dwapar yug*; and from this circumſtance, having removed PARICSHIT from the cloſe of the the *Treta yug* down to the cloſe of the *Dwapar yug*, they were then obliged to place YUDHISHTHIR, ARJUM, CRISHNA, HABIMANYU, and VYASA, *at the cloſe of the Dwapar yug* alſo; by which means they ſeparate VYASA from VALMIC, his contemporary and friend, and the reſt who were engaged in the war of BHARAT from their proper places in hiſtory by 864000 years of the poets.

It is owing to the ſame erroneous notions reſpecting the *Cali yug*, that the modern *Hindus* have thrown the ancient hiſtory and chronology of the kings of *Magadha* or *Bahar* into confuſion. For having diſcovered that SAHADEVA, the ſon of JARASANDHA, was contemporary with YUDHISHTHIR, they concluded

that as they had already placed YUDHISHTHIR at the cloſe of the Dwapar yug SAHADEVA muſt be at the beginning of the Cali yug; and therefore, without further ceremony, not only removed SAHADEVA, but his nineteen ſucceſſors, who formed a dynaſty in the family of JARASANDHA from the proper period in hiſtory (between the years 1920 and 2193 of the Cali yug) and placed them immediately before PRADYOTA, who began his reign in the 1000th year of the Cali yug. This removal was productive of two abſurdities at once, both of which are particularly noticed by the late Sir WILLIAM JONES in his chronology of the kings of *Magadha*. The one, that in conſequence of placing the names before PRADYOTA they were obliged to aſſert that the twenty princes reigned one thouſand years, that is from the beginning of the Cali yug in the year of 906 of the Creation down to the 1905th. ſo that they muſt have then reigned as well during the flood as before and after it. The other, that as a chaſm had been formed in that part of the hiſtory from which the twenty reigns were removed, in order to make up that chaſm as well as they could, they were obliged to aſſert, that a dynaſty of four princes of the *Canna* race, the firſt of whom (VASUDEVA) came to the throne in the year of the world 2753 or 1848 of the Cali yug, reigned no leſs than 345 years.

Now as YUDHISHTHIR was the uncle and immediate predeceſſor of PARICSHIT, and conſequently contemporary with PARASARA the father of VYASA; it is clear that both YUDHISHTHIR and SAHADEVA muſt have reigned about the year 2825 of the world: which is about ſeventy-two years after the reign of the above VASUDEVA of the *Canna* race, and correſponding preciſely with the chaſm.

Innumerable other inſtances of the abſurdities of the modern HINDUS might be produced, but thoſe, I have mentioned and explained, I think are ſufficient

cient. I ſhall therefore conclude the ſubject of the poetic æras with the following table, ſhewing the moon's age and month, with the day of the week on which the Satya, Treta, Dwapar, and Cali yugs of the poets reſpectively commenced; which will prove, beyond a probability of doubt, that they have no connection whatever with the aſtronomical yugs of the ſame name, belonging to the ſyſtem of MEYA explained at the beginning of this eſſay; for in the latter all the yugs, Manwantaras, &c. belonging to the ſyſtem begin unvariably, on the firſt day of *Byſakh*, the moment the ſun enters Aries in the *Hindu* ſphere.

Poetic Æras.	*Days of the Week.*	*Moon's Age and Month.*
Satya yug	*Sunday*	3d titthee of the moon of *Byſakh.*
Treta do.	*Monday*	9th do. of do. *Cartic.*
Dwapar do.	*Thurſday*	28th do. of do. *Bhadro.*
Cali do.	*Tueſday*	15th do. of do. *Magh.*

Note. The lunar month takes its name from the ſolar month, in which the new moon happens to fall. 30 titthees make a lunation.

With reſpect to the day of the week mentioned in preceding table ſome of the *Hindu* accounts differ. The moon's age and month are extracted from the *Brohmo puran*, which agrees with the *Hindu* calendar, wherein the commencement of each yug is alſo recorded.

The following table of the dates of the ten *avatars* or incarnation of the deity, which took place in the above mentioned yugs, is extracted from an

augum

augum or *tontor* called "*Gubjateeguhja*" ſuppoſed to have been written by SEEB or SEEVA, a *Hindu* deity.

TABLE OF THE AVATARS.

	Avatars.	*Week Day.*	*Moon's Age and Month.*	*Nakſhatra*
1	MOTCHYO	Monday	1 titthee *Chitro*	*Revati*
2	KURMO	Wedneſday	2 *Joiſt'ho*	*Rohini*
3	BORAHO	Sunday	7 *Magho*	*Aſwini*
4	NREESINGHO	Saturday	14 *Byſakho*	*Swati*
5	BAMONO	Friday	12 *Bhadro*	*Sravana*
6	POROSURAMO	Saturday	3 *Byſakho*	*Rohini*
7	RAMO	Monday	9 *Chitro*	*Punaryobaſee*
8	KREESNO	Wedneſday	23 *Bhadro*	*Rohini*
9	BOODHO	Sunday	10 *Aſaro*	*Byſakha*
10	KOLKEE	Saturday	2 *Agrahain*	*Purvaſara*

The 1ſt. 2nd. 3d. and 4th Avatars are ſuppoſed to have happened during the period of the Satya yug; the 5th, 6th, and 7th, in the Treta yug; the 8th and 9th. in the Dwapar yug; and the 10th or laſt in the Cali yug of the Poets long ſince paſt.

Having then finiſhed what I had to ſay reſpecting the poetic æras and the abſurdities introduced into the hiſtory and chronology of the *Hindus*, by confounding them with the aſtronomic ſyſtem of MEYA, I ſhall now proceed to a third ſyſtem, wherein the Manwantaras appear to have been but of ſhort duration, and to depend on the revolutions of either JUPITER or SATURN. This ſyſtem, like that of the poetic æras, has been always confounded

confounded with that of MEYA's, and conſequently the cauſe of much confuſion in the records of ancient times. To diſtinguiſh it from MEYA's I ſhall call it the *Puranic* Syſtem, and, by way of introduction, give the following table of the dates, &c. of the fourteen puranic Manwantaras, as contained in a Hindu book entitled the *Uttara Chanda*, from which Captain FRANCIS WILFORD was ſo obliging as to favour me with an extract.

TABLE OF THE PURANIC MANWANTARAS.

Manwa	*Day of the Week.*	*Moon's Age & Month*	*Nakſhatra.*
1	Began on *Sunday.*	9th titthee of *Aſwin.*	*Sravana.*
2	—— *Thurſday.*	12 —— *Cartic.*	*Utto Bhadropada.*
3	—— *Monday.*	3 —— *Chitr.*	*Critica.*
4	—— *Friday.*	3 —— *Bahar.*	*Hoſta.*
5	—— *Tueſday.*	30 —— *Phalgun.*	*Solobhiſa.*
6	—— *Saturday.*	11 —— *Pous.*	*Rhoini.*
7	—— *Friday.*	10 —— *Aſar.*	*Swati.*
8	—— *Tueſday.*	7 —— *Magh.*	* *Onurada.*
9	—— *Sunday.*	23 —— *Srabon.*	*Rhonini.*
10	—— *Friday.*	15 —— *Aſar.*	*UttoraSara*
11	—— *Monday.*	15 —— *Cartic.*	*Critica.*
12	—— *Thurſday.*	15 —— *Phalgun.*	*Uttora-Pholguni.*
13	—— *Wedneſday*	15 —— *Chitr.*	*Chitra.*
14	—— *Wedneſday*	15 —— *Yoiſhth.*	*Jeyſta.*

* Onurada appears incorrect, as the moon of Magh muſt be 20 or 21 days old before it enters Onurada Nakſhatr.

The

The order in which the above Manwantaras followed each other is not now known, but I have given them in the order in which they were written, in the memorial *ſloke* or verſe. However, as the firſt Manwantara commenced juſt when fifty years of BRA'HMA's life (that is one half of the grand cycle of this ſyſtem) were expired, it is eaſy to perceive that the 13th on the liſt muſt have been the firſt Manwantara; and I ſuſpect that the 10th was the ſecond, the 11th the third, the 12th the fourth, and the 14th the fifth Manwantaras, all of which appear to have been computed according to mean motions only, the other nine having the appearance of being computed according to the true place of the planet, on which the regulation of the periods depended.

In this ſyſtem, which appears to have been in uſe before the time of MEYA for yugs, viz. a Satya, Treta, Dwapar, and Cali yug formed a Maha yug; ſeventy-one Maha yugs with a Sandhi, equal to a Satya yug, formed a Manwantara; and fourteen of ſuch Manwantaras with a Sandhi, equal to a Satya yug, or 1000 Maha yugs, formed a *Calpa* or a day of BRA'HMA, and his night was of the ſame length; 360 of ſuch days and nights form one of his years; and 100 of ſuch years the period of his life or the grand *Puranic* cycle, in which all the planets with the nodes and apſides of their reſpective orbits were ſuppoſed to return to a line of conjunction in the beginning of Aries the point they ſet out from at the commencement of the cycle.

From the apparent ſhortneſs of the *Puranic Manwantaras*, (which probably did not exceed 3 or 400 years at moſt) and conſequently of the Calpa, the cycle or term of BRA'HMA's life above mentioned appears to have been abſolutely neceſſary in this ſyſtem to render is applicable to the purpoſe of aſtronomy.

nomy. But in the ſyſtem of MEYA *now in uſe* that cycle is now totally unneceſſary, nor does it in fact belong to it, as the *Calpa* alone in the latter, contains all the leſſer cycles of the revolutions of the planets, nodes, &c. within the period of its duration.

MEYA the ſuppoſed author of *Surya Sidhanta*, lived in the Satya yug of the 28th Maha yug, of the 7th Manwantara of the fifty-firſt year of *Bráhma's* life, and probably finding the *Puranic* ſyſtem either inconvenient, or not ſufficiently correct, he invented the preſent one on a much larger ſcale, extending the duration of a Manwantara to 308448000 years, and ſimplified the ſyſtem by making the yugs, &c. to depend on ſolar motion alone; by which means all the periods in his ſyſtem begin invariably on the firſt day of *Byſakh*, the moment the ſun enters Aries in the *Hindu* ſphere, which circumſtances alone, muſt form a moſt ſtriking difference between it, and the *Puranic* ſyſtem.

In the *Surya Sidhanta*, MEYA has ſtated the obliquity of the ecliptic in his time at 24°, from whence MR. S. DAVIS, a gentleman to whom the public is under very conſiderable obligations, for his valuable paper on the aſtronomical computations of the *Hindus*, publiſhed in the *Aſiatic Reſearches*, computed that ſuppoſing the obliquity of the ecliptic to have been accurately obſerved by the ancient *Hindus* as twenty-four degrees, and that its decreaſe had been from that time half a ſecond a year, the age or date of the *Surya Sidhanta* (in 1789) would be 3840 years; therefore MEYA muſt have lived about the year 1956 of the creation.

The *Hindu* books place PORUSU RAM one of the incarnate divinities in the 8th Manwantara of the *Puranic* ſyſtem, and ſo they do VYASA and OSORHAMO,

the ſon of DRON mentioned in the *Mahabharat*; and ſince the time of VYASA the remaining ſix Manwantaras have expired, as will appear from the following table of all the Patriarchs or *Munoos*, &c. from the time of SWOYOMBHOOBO or ADAM, who lived in the firſt Manwantara down to the end of the fourteenth, which I have extracted from the *Sreebhagobot*, and from which ſome rational idea may be formed reſpecting the duration of the *Puranic Manwantara* now generally confounded with the periods of the ſame name belonging to MEYA's ſyſtem, in which we are now no further advanced than to the ſeventh Manwantara, and which was the ſame when he wrote long before the time of VYASA.

TABLE *of the* PATRIARCHS OR MUNNOOS, *and others, during the fourteen Puranic Manwantaras.*

1ſt MANWANTARA.

SWOYOMBHOOBO, or ADAM. *Munoo.*
SOTOROOPA, his wife
PREEYOBROTO, his ſon
UTTANPADO, his ſecond ſon

AKOOTEE SWOYOMBHOOS 1ſt daughter
DEBOOTE ditto, 2nd
YOGO
PROSOOTEE ditto, 3d ditto

ROOCHEE, the huſband of AKOOTEE
KORDOM, ditto of DEBOOTEE

DOKSOPROJAPOOTEE, ditto of PROSOOTEE
TOOREETO
MOREECHEE
MEESRO ditto

2d MANWANTARA.

SWAROCHEESO. *Munoo*
RAJA DYUMOT his ſon
RAJA SUSENO ditto
RAJA ROCHEESMOT, ditto.

TOOREETO
URJOSTOMBHO
ROCHONO, & others.

3d MANWANTARA.

UTOMO. *Munoo*
POBONO his ſon
SRINJOYO, ditto
JOGOTRO, ditto
SOTYO
BEDOSUTO
BHODRO
PROMODO
SOTYOJEET, and many others.

4th MANWANTARA.

TAMOSO. *Munoo*
BREESOKHYATEE his ſon
NOROHKETU, ditto
SOTYOKHOROYO
BEERSO
BEDHREETOYO
JOTEERDMA
TREESECKHOISWORO, and many others.

5th MANWANTARA.

RIBOTO. *Munoo*
BOTEE his ſon
BEENDHO, ditto
BHOOTOROYO
HERONYOROMA
BEDOSEERA
URDHOBAHOO
BEEBHOO, and many others.

6th MANWANTARA.

CHAKSOOSO. *Munoo*
PURRU his ſon
PURRUSO, ditto
SUDYUMNO, ditto
NOBHOGO, 7th ditto
PRODYUMNO, ditto
APYO
HORYOSMOT
DWEEROKO
MONTRODRUMO, and many others

7th MANWANTARA.

VAVIOSWATA, or NOAH. *Munoo*
ICSHWAKU his 1ſt ſon
NREEGO, 2nd ditto
DREESTO, 3d ditto
SORYATI, 4th ditto
NORISYANTO, 5th ditto
PREESODHRO his 6th ſon
KOBEE, 8th ditto
DEESTO, 9th ditto
BARUNO, 10th ditto
ADITYO

7th MANWANTARA (continued.)

Bosu	Otri
Rudro	Bosisto
Biswedebo	Biswamitro
Morudgono	Goutomo
Osnikumar	Jomodognee
Ribhobo	Bhorodwajo
Kosyapo	Purondoro, and many others.

8th MANWANTARA.

Saborni. *Munoo*	Porosu Ram
Neermoko his ſon	Dipliman
Beerojoska ditto	Osotthamo ſon of Dron
Sutopa	Kreepo
Beeroja	Reesyoringo
Omreetoprorho	Vyasa or Byasa
Gabolo	

9th MANWANTARA.

Doksosaborni. *Munoo*	Ghorbo
Bootoketu his ſon	Paro
Diptiketu ditto	Dyutimot
Dreestoketu ditto	Strutho and many others.
Morichi	

10th MANWANTARA.

Bromosabornee. *Munoo*	Sukreeto
Bhurisin his ſon	Sotyo
Surasono	Joyo
Birudho	Murti
Hobismaw	Sombhoo and many others.

11th MANWANTARA.

DHOMORSABORNEE. *Munoo*
SOTYO DHORMO his ſon
BIHONGGONO
KAMOGOMO
NEEBBANO
ROOCHEE
ORUNO
BIDRETTO and many others.

12th MANWANTARA.

RUDROSABORNEE. *Munoo*
DEBOBAN his ſon
UPODEBO ditto
DEBOSREESTO ditto
HORITO
TOPOMURTI
TOPOSEE
OGNEEDROKO
GONDHODHAMA and many others.

13th MANWANTARA.

DEBOSABORNEE. *Munoo*
CHITROSENO his ſon
BICHITRO ditto
SUKORMÆ
SUTRAMO
NEERMOKO
DIBOSPOTEE and many others.

14th MANWANTARA.

EENDROSOBORNI. *Munoo*
URUNGGO his ſon
BHURU ditto
BODHNO ditto
POBETROO
CHAKSOOSO
OGNEE
BAHOO
SOOCHEE
SUDHO
MAGODHO and many others.

NOTE. Several names in the foregoing table had the title of *Devtas*, *Reeſhees*, &c. annexed to them, probably by way of diſtinction or pre-eminence.

UTOMO, TOMOSO, and RIBOTO, the third, fourth, and fifth *Munoos*, were the grandſons of SWOYOMBHOOBO or ADAM; DOKSO SABORNEE, the

The 9th *Munoo* was the ſon of BARUNO or VARUNO, the tenth ſon of VAIVOSWATA: therefore it is eaſy to perceive that the *Puranic Manwantara*, which was conſidered in ancient times as the duration of the life of a *Munoo* or Patriarch could not be very long, and ought not to be confounded with the Manwantaras of the preſent ſyſtem of MEYA, conſiſting of 308448000 years each.

A CHRONOLOGICAL TABLE

Of the ſolar and lunar line of princes, who are ſaid to have reigned in the Cities of *Ayodhya* or *Audh* (now *Oud*), and *Praliſhthana* or *Vitora*, otherwiſe *Haſtinapoor* (now *Delhi*) reſpectively, from about the beginning of the Treta yug of the Poets, or 1002nd year of the aſtronomic Cali yug, down to the time the ſolar line of princes became extinct: when the country is ſuppoſed to have been conquered by ſome foreign power; probably ALEXANDER.

Poetic Æra.	*Solar Line.*	*Year of the Yug.*	*Lunar Line.*	*Aſtr. Æra C. Yug*
179	ICSWACHU	1907	BUDHA	1002
	VICUCSHI		PURURAVAS	
	CUCUSTA		AYUSH	
	ANENAS		NAHUSHA	
	PRITHU 5		YAYATI 5	
	VISWAGANDHI		PURU	
	CHANDRA		JANAMEJAYA	
	YUVANASWA		———	
	SRAVA		———	
	VRIHADHASWA 10		——— 10	
	DHUNDHUMARA		———	
	DRIDHASWA		———	

Treta Yug, or Silver Age.

HE-

Poetic Æra.	*Solar Line.*	*Year of the W.*	*Lunar Line.*	*Astr. Æra C. Yug*
Treta Yug, or Silver Age.	HERYASWA		——	
	NICUMBHA		——	
	CRISASWA 15		——	
	SENAJIT		——	
	YUVANASWA		——	
	MANDHATRI		——	
	PURUCUTSA		PRACHINWAT	
	TRASADASYU		PRAVIRA	
	20			
	ANARANYA		MENASYU	
	HERYASWA		CHARUPADA	
	PRARUNA		SUDYU	
	TRIVENDHANA		BAHUGAVA	
	SATYAVRATA		SANYATI	
	25			
	TRISANCU		AHANYATI	
	HARISCHANDRA		RAUDRASWA	
	RHOITA		RITEYUSH	
	HARITA		RAUTINAVA	
	CHAMPA 30		SUMATI	
	SUDEVA		AITI	
	VIJAYA		DUSHMANTA	
	BHARUCA		BHARATA	
	VRICA		VITATHA	
	BAHUCA 35		MANYU	
	SAGARA		VRIHATESHETRA	
	ASMANJAS		HASLIN	
	ANSUMAT		AJAMEDHA	
	BHAGHIRATHA		RICSHA	
	SRUTA 40		SAMWARANA	
	NABHA		CURU	

SIND-

Poetic Æras.	*Solar Line.*		*Year of the Mo.*	*Lunar Line.*		*Astr. Æra C. Yug*
	SINDHADWIPA			JAHNU		
	AYUTAYUSH			SURATHA		
	RITAPERNA			VIDURATHA		
	SAUDASA	45		SARVABHAUMA	45	
	ASMACA			JAYASINHA		
	MULACA			RADHICA		
	DASARATHA			AYUTAYUSH		
	AIDABIDI			ACRODHANA		
	VISWASAHA	50		DEVATITHI	50	
	CHATAWANGA			RUSHA		
	DERGHABAHU			DILLIPA		
	RAGU			PRATIPA		
	AJA			SANTANU		
	DASARATHA	55		VACHYTRAVIRYA	55	
	RAMA			PANDU		
Treta Yug, or Silver Age. 1097	VRIADBALA		2825	YUDHISHTHIRA		1920
1107	VRIHADRANA		2835	PARISCHIT		1930
	*URUCRYA			*JANAMAJAYA		
	*VATSAVRIDHA	60		*SATANICA	60	
	*PRATOYOMA			*SAHASRINACA		
	*BHANU			*ASWAMEDHAJA		
	*DEVACA			*ASIMACHRISHNA		
	*SAHADEVA			*NEMICHACRA		
	*VIRA	65		*UPTA	65	
1296	*VRIDHASWA		3024	*CHITRARATA		2119

Dwapar

Poetic Æra.	*Solar Line.*		*Year of the Wo.*	*Lunar Line.*		*Astr. Æra C.Yug*
1	CUSHA		3025	*SUCHIRATHA		2120
	ATTITHI			*DHRITIMAT		
	NISHADHA			*SUSHINA'		
	NABAS	70		*SUNITHA	70	
	PUNDARICA			*NRICHAESHUH		
	CSHEMADHANWAS			*SUCHINALA		
	DEVANICA			*PARIPLAVA		
	AHSNIAGU			*SUNAGAR		
	PARIPATRA	75		*MEDHAVIN	75	
	RANACHALA			*NRIPANJAVA		
	VAJRANABHA			*DERVA		
	ARCA			*TRINI		
	SUGANA			*VRIHADRATHA		
	VIDHRITI	80		*SUDHASA	80	
	HIRANYANABHA			*SATANICA		
	PUSHYA			*DURMADANA		
	DRUVASANDHI			*RAHINARA		
	SUDERSANA			*DANDAPANI		
	AGNIVERNA	85		*NIMI	85	
	SIGHIRA			*CSHIMACA		
	MARU			———		
	PRASUSRUTA			———		
	SANDHI			———		
	AMERSANA	90		———	90	
	MAHASWAT			———		
	VISWABHAHU			———		
	PRASENHAJIT			———		
	TACSHACA			———		
	*BANNUMAT	95		———	95	

Dwapar Yug, or Brazen Age.

Poetic Æra.	*Solar Line.*	*Year of the W.*	*Lunar Line.*	*Aſtr. Æra C.Yug*
Dwapar Yug, or Brazen Age.	*PRACTICASWA			
	*SUPRATICA			
	*MARUDEVA			
	*SUNASCHATRA		100	
	*PUSHCARA 100			
	*ANTARICSHA			
	*SUTAPAS		105	
	*AMITRAJIT.			
	*VRIHADRAJA			
	*BARHI 105			
	*CRITANJAYA			
	*RANANJAYA		110	
	*SLOCYA			
	*SUDHODA 110			
	*LANGALADA			
	*PRASENAJIT			
	*CSUDRACA		115	
	*SUMITRA 115			
864	117	3888	117	2983

In the preceding table I have placed YUDHISHTHIR in the year 2825 of the world correſponding to the 1097th of the Treta yug of the Poets, and to the 1920th of the aſtronomic Cali yug: that this is about the period in which YUDHISHTHIR reigned I have not myſelf the ſmalleſt doubt, not only becauſe he muſt have been contemporary with PARASARA the father

of

of VYASA, but alſo on account of the exact coincidence of that period with the chaſm of the chronology of the kings of *Maghada*, which appears ſufficiently evident to have been occaſioned by the removal of the dynaſty of SAHADEVA, who was contemporary with YUDHISHTHIR, from that period of hiſtory.

From the probabilities of the duration of life deduced from obſervations on bills of mortality, it appears, that the mean duration of human life, taking one man with another, does not exceed thirty-two or thirty-three years. Admitting, however, the mean duration of life to be thirty-three years of this we cannot allow more than a half, or ſeventeen years at the utmoſt, to each reign, in a long ſucceſſion of princes. Therefore, as ICSHWACU the ſon of NOAH, began his reign near the beginning of the Treta yug, or in the year 179 of that period, if we divide the remaining years 1117 in the Treta yug by 17, we ſhall have about ſixty-ſix reigns from ICSHWACU's time down to the end of the Treta yug and his number of reigns is confirmed by the place of YUDHISHTHIR in the table, being the fifty-ſeven reign, and at the ſame time about 200 years before the end of the Treta yug; ſo that in all probability, it would require at leaſt nine or ten reigns more, from his time down to the end of that period. After the ſame manner, the number of computed reigns for the whole of the Dwapar yug or 864 years, would be fifty-one: which, with the former number, make altogether 117 computed reigns; and of this number, we find no more than 114 in the ſolar line of princes, and ſtill conſiderably leſs in the lunar line.

In conſequence of the ancient hiſtorians' adopting the aſtronomic æra of the Cali yug, at the cloſe of PARICSHIT's reign, as already noticed, YUDHISHTHIR and PARICSHIT's in the lunar line, and with VRIHADBALA and VRIHADRANA, their contemporaries in the ſolar line were removed (with others) by

the modern commentators from the cloſe of the Treta yug down to the cloſe of the Dwapar yug of the Poets; therefore RAMA was ſuppoſed to have been the laſt prince of the ſolar line who reigned in *Oud* at the cloſe of the Treta yug: and as they had placed the immediate ſucceſſors of PARICSHIT at the beginning of the Cali yug; ſo, in like manner, the immediate ſucceſſors of VRIHADRANA may be ſuppoſed to have been placed at the beginning of the Cali yug alſo: hence the mode of correction required becomes obvious.

I have therefore reſtored VRIHADBALA and VRIHADRANA to their proper places in the Treta yug, as contemporaries with YUDHISHTHIR and PARICSHIT; and the remaining names down to the end of that period marked with a *, were their ſucceſſors as placed in the Cali yug.

The other names marked with a *, are the remaining princes mentioned in Sir WILLIAM JONES's chronology as reigning in the Cali yug; all of whom, however, if they reigned at all, muſt have reigned before the end of the Dwapar yug of the Poets; and their being mentioned by ancient hiſtorians as reigning in the Cali yug, does not at all imply that they reigned after the Dwapar yug, but only in the aſtronomical Cali yug, which commenced the 906th year of the Satya yug of the Poets, and has been unfortunately confounded (by the modern Hindu commentators) with their Cali yug: with which however it has no relation except in name: or to ſpeak more correctly, they have confounded the fictitious ages of the Poets with the real aſtronomic periods.

With reſpect to the chaſm in the lunar line of princes after JANANUJAYA, the names that are miſſing muſt either have been loſt, or elſe, which is more pro-

probable, mentioned by the ancient hiſtorians, as reigning in the Cali yug of the aſtronomical æra; and as JANANUJAYA is the firſt prince mentioned as reigning in the Cali yug, in the lunar line, it is very probable, he may be the ſame perſon recorded as reigning in the Treta yug; and if that ſhould be the caſe, the eleven names that follow next to him, moſt likely will be thoſe that ſhould fill the chaſms.

At what particular period of time, the ſolar line of princes became extinct, it is not eaſy to aſcertain, by the table, it would appear, that it muſt have been fifty years before the year 3888 of the world; but as I allowed ſeventeen years to each reign, which is rather two much in a long ſucceſſion of eldeſt ſons, it is probable it muſt have ended about 100 years, at leaſt, earlier than given by the table; which will place the end of the laſt prince's reign, about the year 3788 of the world.

ALEXANDER the Great paid his viſit to *India* about 200 years about the year 3888 of the world, or end of the Dwapar yug; but whether he was the cauſe of the ſolar line of princes becoming about that time extinct, or whether PRASENAJIT (the laſt prince but two mentioned in the table, and whoſe name might be pronounced, or corrupted into PORASNAJIT, PORUSNAJIT, or even PORUS itſelf, leaving out the termination NAJIT) was the prince named PORUS, whom ALEXANDER conquered and took priſoner, I will leave to others to decide.

A CHRONOLOGICAL TABLE

Of the kings of *Magadha* or *Behar*, from the reign of PRADYOTA, in the year 1095 of the world, down to that of CHANDRABIJA in the year 3554, containing a period of 1649 years.

Anno

Anno Mundi		*Cali Yug*	*Anno Mundi*		*Cali Yug*
1905	PRADYOTA	1000		SUJYESHTHA	
	PALACA			VASUMITRA	
	VISACHAYUPA			ABHADRACA	
	RAJACA			PULINDA	
	NANDIVIRDA-NA			GHOSHA	
				VAJRAMITRA	
2044	SISUNGA	1139		BHAGAVATA	
	CACAVERNA			DEVABUTI	
	CSHEMADHER-MAN		2753	VASUDEVA	1848
				BHUMITRA	
	CSHETRAJIR-YA			NARAYANA	
				SUSARMAN	
	VIDISARA		2825	*SAHADEVA	1920
	AJATASATRU			*MARJARI	
	DARBACA			*SRUTASRAVA	
	AJAYA			*AYUTAYUSH	
	NANDEVERD-HANA			*NIRAMITRA	
				*SUNACSHA-TRA	
	MAHANANDI				
2404	NANDA	1499		*VRISHETSE-NA	
2504	CHANDRA-GUPTA	1599		*CARMAJIT	
				*SRUTANJAYA	
	VARISARA			*VIPRA	
	ASOCAVERD-HANA			*SUCHI	
				*CSHEMA	
	SUYASAS			*SUVRATA	
	DESARATHA			*DHERMASU-TRA	
	SANDGATHA				
	SALISUCA			*SRAMA	
	SOMASARMAN			*DRIDHASE-NA	
	SATADHAN-WAS				
	VRIADRATHA				
2641	PUSHPAMITHA	1736			
	AGNAMITRA				

*Su-

Anno Mundi		*Cali Yug*	*Anno Mundi*		*Cali Yug*
	*SUMATI			SIVASWATI	
	*SUBALA			PURISHABHE-RU	
	*SUNITA			SUMANDANA	
	*SAYTAJIT			CHACORACA	
3098	BALIN	2193		BATACA	
	CRISHNA			GOMALIN	
	SRISANTA-CARNA			PURIMAT	
	PAURNAMA-SA			MEDASIRAS	
	LAMBODARA			SERASCANDA	
	VIVILACA			YAJNYASRI	
	MEGHASWATA			VIJAYA	
	VATAMANA			CHANDRA-BIJA	2649
	TALACA		3554		

The names with a * ſet before them, are thoſe whom I mentioned in the foregoing remarks, to have been erroneouſly placed by the modern *Hindus* before PRADYOTA; for, SAHADEVA, the firſt of the dynaſty was contemporary with YUDHISHTHIR, who reigned about the year 2825 of the world. I have therefore reſtored them again to their proper places in hiſtory, and by that means corrected the two abſurdities pointed out by the late Sir WILLIAM JONES, in the *Hindu* chronology of the kings of *Magadha* or *Behar*.

Calcutta, 2nd October, 1796.

XXII.

ON THE RELIGIOUS CEREMONIES OF THE HINDUS, AND OF THE BRA'HMENS ESPECIALLY.

BY H. T. COLEBROOKE, ESQ.

ESSAY I.

THE civil Law of the Hindus, containing frequent alluſions to their religious rites, I was led, among other purſuits connected with a late undertaking, to peruſe ſeveral treatiſes on this ſubject, and tranſlate from the Sanſcrit ſome entire tracts and parts of others. From theſe ſources of information upon a ſubject on which the Hindus are by no means communicative, I intend to lay before the Society, in this and ſubſequent eſſays, an abridged explanation of the ceremonies, and verbal tranſlations of the prayers uſed at rites, which a *Hindu* is bound conſtantly to perform. In other branches of this inquiry, the Society may expect valuable communications from our colleague Mr. W. C. BLAQUIERE, who is engaged in ſimilar reſearches. That part of the ſubject to which I have confined my inquires will be alſo found to contain curious matter, which I ſhall now ſet forth without comment, reſerving for a ſubſequent eſſay the obſervations which are ſuggeſted by a review of theſe religious practices.

A *Bráhmana* riſing from ſleep is enjoined under the penalty of loſing the benefit of all rites performed by him, to rub his teeth with a proper withe, or a twig of the racemiferous fig tree, pronouncing to himſelf this prayer, "Attend, lord of the foreſt; SOMA, king of herbs and plants, has approached

" thee : mayeſt thou and he cleanſe my mouth with glory and good auſpices, " that I my eat abundant food." The following prayer is alſo uſed upon this occaſion, " Lord of the foreſt ! grant me life, ſtrength, glory, ſplendour, offspring, cattle, abundant wealth, virtue, knowledge, and intelligence." But if a proper withe cannot be found, or on certain days when the uſe of it is forbidden (that is, on the day of the conjunction and on the firſt, ſixth, and ninth days of each lunar fortnight), he muſt rince his mouth twelves times with water.

Having carefully thrown away the twig, which has been uſed, in a place free from impurities, he ſhould proceed to bathe, ſtanding in a river or in other water. The duty of bathing in the morning and at noon, if the man be a houſeholder, and in the evening alſo, if he belong to an order of devotion, is inculated by pronouncing the ſtrict obſervance of it in no leſs efficacious, than a rigid penance, in expiating ſins, eſpecially the early bath in the months of *Magha*, *Pholgima*, and *Cartica* : and the bath being particularly enjoined as a ſalutary ablution, he is permitted to bathe in his own houſe, but without prayers, if the weather, or his own infirmities prevent his going forth ; or he may abridge the ceremonies and uſe fewer prayers, if a religious duty or urgent buſineſs require his early attendance. The regular bath conſiſts of ablutions followed by worſhip and by the inaudable recitation of the *Gáyatri* with the names of the worlds. Firſt ſipping water, and ſprinkling ſome before him, the prieſt recites the three ſubjoined prayers, while he performs an ablution by throwing water eight times on his head, or towards the ſky, and concludes it by caſting water on the ground to deſtroy the Demons, who wage war with the Gods. " 1ſt. O waters ! ſince ye afford delight, grant us preſent happineſs, " and the rapturous ſight of the ſupreme God. 2d. Like tender Mothers " make us here partakers of your moſt auſpicious eſſence. 3d. We became

con-

" contended with your eſſence, with which ye ſatisfy the univerſe. Waters! " grant it unto us." For, as otherwiſe expounded, the third text may ſignify, " Eagerly do we approach your eſſence, which ſupports the univerſal abode. Wa- " ters! grant it unto us." In the *Agni purána* the ablution is otherwiſe di- " rected: " At twilight, let a man attentively recite the prayers addreſſed to " water, and perform an ablution by throwing water on the crown of his head, " on the earth, towards the ſky; again towards the ſky, on the earth, on the " crown of his head, on the earth, again on the crown of his head; and, laſtly " on the earth." Immediately after this ablution he ſhould ſip water without ſwallowing it, ſilently praying in theſe words, " Lord of ſacrifice! thy heart " is in the midſt of the waters of the ocean; may ſalutary herbs and waters per- " vade thee. With ſacrificial hymns and humble ſalutation we invite thy pre- " ſence: may this ablution be efficacious." Or he may ſip water while he utters inaudably the myſterious names of the ſeven worlds. Thrice plunging into water he muſt each time repeat the expiatory text which recites the creation; and having thus completed his ablution, he puts on his mantle after waſhing it, and ſits down to worſhip the riſing ſun.

This ceremony is begun by his tying the lock of hair on the crown of his head, while he recites the *Gáyatri*, holding much *cuſa* graſs in his left, and three blades of the ſame graſs in his right hand; or wearing a ring of graſs on the third finger of the ſame hand. Thrice ſipping water with the ſame text preceded by the myſterious names of worlds, and each time rubbing his hands as if waſhing them; and finally, touching with his wet hand his feet, head, breaſt, eyes, ears, noſe, and navel, or his breaſt, navel, and both ſhoulders, only (acording to another rule) he ſhould again ſip water three times pronouncing to himſelf the expiatory text which recites the creation. If he hap-

pen to ſneeze, or ſpit, he muſt not immediately ſip water, but firſt touch his right ear in compliance with the maxim, "after ſneezing, ſpitting, blowing his noſe, ſleeping, putting on apparel, or dropping tears, a man ſhould not immediately ſip water, but firſt touch his right ear." "Fire," ſays PARASARA, "water," the *védas*, "the ſun, moon, and air, all reſide in the right ears of "*Bráhmanas*. *Ganga* is in their right ears, ſacrificial fire in their noſtrils; at "the moment when both are touched, impurity vaniſhes." This, by the by, will explain the practice of ſuſpending the end of the ſacerdotal ſtring over the right ear, to purify that ſtring from the defilement which follows an evacuation of urine. The ſipping of water is a requiſite introduction of all rites; without it ſays, the *Samba purána*, all acts of religion are vain. Having therefore ſipped water as above mentioned, and paſſed his hand filled with water briſkly round his neck, while he recites this prayer: "May the waters preſerve me!" The prieſt cloſes his eyes, and meditates in ſilence, figuring to himſelf that BRA'HMA with fair faces, "and a red complexion, reſides in his "navel; VISHNU with four arms and a black complexion, in his heart; and "SIVA with five faces and a white complexion, in his forehead." The prieſt afterwards meditates the holieſt of texts during three ſuppreſſions of breath. Cloſing the left noſtril with the two longeſt fingers of his right hand, he draws his breath through the right noſtril, and then cloſing that noſtril likewiſe with his thumb, holds his breath while he meditates the text: he then raiſes both fingers off the left noſtril, and emits the breath he had ſuppreſſed. While he holds his breath he muſt on this occaſion repeat to himſelf the *Gáyatri* with the myſterious names of the worlds, the triliteral monoſyllable, and the ſacred text of BRA'HME. A ſuppreſſion of breath ſo explained by the ancient legiſlator; YA'JNYAWALCYA conſequently implies the following meditation, "Om! earth! ſky! heaven! middle region! place of births! manſion of the bleſſed! abode of truth!"

"We

" We meditate on the adorable light of the reſplendent Generator which go-
" verns our intellects; which is water, luſtre, ſavour, immortal faculty of
" thought, BRA'HME, earth, ſky, and heaven." According to the commentary, of which a copious extract ſhall be ſubjoined, the text thus recited ſignifies: " That effulgent power which governs our intellects is the primitive ele-
" ment of water, the luſtre of gems and other glittering ſubſtances, the ſavour
" of trees and herbs, the thinking ſoul of living beings; it is the creator, pre-
" ſerver, and deſtroyer, the ſun and every other deity and all which moves, or
" which is fixed in the three worlds, named, earth, ſky, and heaven. The
" ſupreme BRA'HME, ſo manifeſted, illumines the ſeven worlds; may he unite
" my ſoul to his own radiance (that is to his own ſoul, which reſides effulgent
" in the ſeventh world, or manſion of truth)." On another occaſion, the concluding prayer, which is the *Gáyatri* of BRA'HME, is omitted, and the names of the three lower worlds only are premiſed: thus recited, the *Gáyatri* properly ſo called, bears the following import: " On that effulgent power, which is
" BRA'HME himſelf, and is called the light of the radiant ſun, do I meditate;
" governed by the myſterious light which reſides within me, for the purpoſe
" of thought; that very light is the earth, the ſubtil ether, and all which ex-
" iſts within the created ſphere; it is the threefold world, containing all which
" is fixed or moveable; it exiſts internally in my heart, externally in the orb of
" the ſun; being one and the ſame with that effulgent power. I myſelf am an
" irradiated manifeſtation of the ſupreme BRA'HME." With ſuch reflections, ſays the commentator, ſhould the text be inaudibly recited.

Theſe expoſitions are juſtified by a very ample commentary in which numerous authorities are cited; and to which the commentator has added many paſſages from ancient lawyers and from mythological poems, ſhowing the efficacy of

of theſe prayers in expiating ſin: as the foregoing explanations of the text are founded chiefly on the gloſs of an ancient philoſopher and legiſlator, *Yájnya-walcya*, the following extract will conſiſt of little more than a verbal tranſlation of his metrical gloſs:

"The parent of all beings produced all ſtates of exiſtence, for he generates "and preſerves all creatures; therefore is he called the Generator. Becauſe he "ſhines and ſports, becauſe he loves and irradiates, therefore is he called re- "ſplendent or divine, and is praiſed by all deities. We meditate on the light "which, exiſting in our minds, continually governs our intellects in the pur- "ſuits of virtue, wealth, love, and beatitude. Becauſe the being, who ſhines "with ſeven rays, aſſuming the forms of time and of fire, matures productions, "is reſplendent, illumines all, and finally deſtroys the univerſe, therefore, he "who naturally ſhines with ſeven rays, is called Light, or the effulgent power. "The firſt ſyllable denotes, that he illumines worlds; the ſecond conſonant im- "plies, that he colours all creatures; the laſt ſyllable ſignifies, that he moves "without ceaſing. From his cheriſhing all, he is called the irradiating Pre- "ſerver."

Although it appears, from the terms of the text, ("Light of the Generator or Sun,") that the ſun and the light ſpoken of are diſtant, yet, in meditating this ſublime text, they are undiſtinguiſhed; that light is the ſun and the ſun is light; they are identical. "The ſame effulgent and irradiating power which animates living beings, as their ſoul exiſts in the ſky, as the male being reſiding in the midſt of the ſun." There is conſequently no diſtinction; but that effulgence, which exiſts in the heart governing the intellects of animals, muſt alone be meditated as one and the ſame, however, with the luminous power reſiding in the orb of the ſun.

"That

"That which is in the ſun and thus called light, or effulgent power, is adorable and muſt be worſhipped by them who dread ſucceſſive births and deaths, and who eagerly deſire beatitude. The being, who may be ſeen in the ſolar orb, muſt be contemplated by the underſtanding, to obtain exemption from ſucceſſive births and deaths and various pains."

The prayer is preceded by the names of the ſeven worlds, as epithets of it, to denote its efficacy; ſignifying, 'that this light pervades and illumines the ſeven worlds, which, ſituated one above the other, are the ſeven manſions of all beings: they are called the ſeven abodes, ſelf-exiſtent, in a former period, renovated in this. Theſe ſeven myſterious words, are celebrated as the names of the ſeven worlds. The place where all beings, whether fixed or moveable, exiſt is called Earth, which is the firſt world. That in which beings exiſt a ſecond time, but without ſenſation, again to become ſenſible at the cloſe of the period appointed for the duration of the preſent univerſe, is the world of re-exiſtence. The abode of the good, where cold, heat, and light are perpetually produced, is named Heaven. The intermediate region, between the upper and lower worlds, is denominated the Middle World. The heaven where animals, deſtroyed in a general conflagration at the cloſe of the appointed period, are born again, is thence called the World of Births. That in which SANACA and other ſons of BRA'HMA, juſtified by auſtere devotion, reſide, exempt from all dominion, is thence named the Manſion of the Bleſſed. Truth, the ſeventh world, and the abode of BRA'HME, is placed on the ſummit above other worlds; it is attained by true knowledge, by the regular diſcharge of duties, and by veracity: once attained, it is never loſt. Truth is, indeed, the ſeventh world. therefore, called the Sublime Abode."

The

The names of the worlds are preceded by the triliteral monoſyllable, to obviate the evil conſequence announced by MENU, "A BRA'HMANA', beginning "and ending a lecture of the *véda*, (or the recital of any holy ſtrain,) muſt al- "ways pronounce to himſelf the ſyllable *óm*: for unleſs the ſyllable *óm* precede, "his learning will ſlip away from him; and, unleſs it follow, nothing will be "long retained; or that ſyllable is prefixed to the ſeveral names of worlds, de- "noting, that the ſeven worlds are manifeſtations of the power ſignified by that "ſyllable. As the leaf of the *paláſá*," ſays YA'JNYAWALCYA, "is ſupported by "a ſingle pedicle, ſo is this univerſe upheld by the ſyllable *óm*, a ſymbol of the "ſupreme BRA'HME." "All rites ordained in the *vêda*, oblations to fire, and "ſolemn ſacrifices, paſs away, but that which paſſeth not away," ſays MENU, "is declared to be the ſyllable *óm*, then called *acſhara*, ſince it is a ſymbol of "GOD, the Lord of created beings."

"The concluding prayer is ſubjoined to teach the various manifeſtations of "that light, which is the Sun himſelf. It is BRA'HME, the ſupreme ſoul. The "ſun, ſays *Yájnyawalcya*, is BRA'HME; this is a certain truth revealed in the "ſacred *upaniſhats*, and in various *ſáchás* of the *védas*. So the *Bhawiſhya pu-* "*rána*, ſpeaking of the ſun. Becauſe there is none greater than he, nor has "been, nor will be, therefore he is celebrated as the ſupreme ſoul in all the "*védas*."

That greateſt of lights, which exiſts in the ſun, exiſts alſo as the principle of life in the hearts of all beings. It ſhines externally in the ſky, internally in the heart; it is found in fire and in flame. This principle of life, which is acknowledged by the virtuous, as exiſting in the heart and in the ſky, ſhines externally in the etherial region, manifeſted in the form of the ſun. It is alſo made

made apparent in the luſtre of gems, ſtones, and metals, and in the taſte of trees, plants, and herbs; that is, the irradiating being, who is a form of BRA'HME, is manifeſted in all moving beings (gods, demons, men, ſerpents, beaſts, birds, inſects, and the reſt,) by their locomotion; and in ſome fixed ſubſtances, ſuch as ſtones, gems, and metals, by their luſtre; in others, ſuch as trees, plants, and herbs, by their ſavour. Every thing, which moves, or which is fixed, is pervaded by that light, which, in all moving things, exiſts as the ſupreme ſoul, and as the immortal thinking faculty of beings, which have the power of motion. Thus, the venerable commentator ſays, "In the "midſt of the ſun ſtands the moon, in the midſt of the moon is fire, in the midſt "of light is truth, in the midſt of truth is the unperiſhable being." And again, "God is the unperiſhable being, reſiding in the ſacred abode; the thinking ſoul "is light alone; it ſhines with unborrowed ſplendour." This thinking ſoul, called the immortal "principle," is a manifeſtation of that irradiating power, who is the ſupreme ſoul.

This univerſe, conſiſting of three worlds, was produced from water. "He firſt, with a thought, created the waters, and placed in them a productive ſeed." (*Menu*, chap. i. v. 8.) Water which is the element, whence the three worlds proceeded, is that light, which is alſo the efficient cauſe of creation, duration, and deſtination, manifeſted with theſe powers, in the form of BRA'HMA, VISHNU, and RUDRA; to denote this, "earth, ſky, and heaven," are ſubjoined as epithets of light. Theſe terms bear alluſion alſo to the three qualities of truth, paſſion, and darkneſs, correſponding with the three manifeſtations of power, as creator, preſerver, and deſtroyer; hence it is alſo intimated, that the irradiating being is manifeſted as BRA'HMA, VISHNU, and RUDRA, who are reſpectively endued with the qualities of truth, paſſion, and darkneſs. The meaning is, that this irradiating being, who is the ſupreme

BRA'HME, manifeſted in three forms or powers, is the efficient cauſe of the creation of the univerſe, of its duration and deſtruction. So in the *Bhawiſhya puráṇa*, CRĬSHNA ſays, "the ſun is the god of perception, the eye of the uni-"verſe, the cauſe of day; there is none greater than he among the immortal "powers. From him this univerſe proceeded, and in him it will reach annihi-"lation; he is time meaſured by inſtants, &c." Thus the univerſe, conſiſting of three worlds containing all which is fixed or moveable, is the irradiating being; and he is the creator of that univerſe, the preſerver and deſtroyer of it. Conſequently nothing can exiſt, which is not that irradiating power.

Theſe extracts from two very copious commentaries will ſufficiently explain the texts, which are meditated while the breath is held as above mentioned. Immediately after theſe ſuppreſſions of breath, the prieſt ſhould ſip water reciting the following prayer, "May the ſun ſacrifice the regent of the firma-"ment and other deities who preſide over ſacrifice, defend me from the ſin "ariſing from the imperfect performance of a religious ceremony. Whatever "ſin I have committed by night, in thought, word, or deed, be that cancelled "by day. Whatever ſin be in me, may that be far removed. I offer this water "to the ſun, whoſe light irradiates my heart, who ſprung from the immortal "eſſence. Be this oblation efficacious." He ſhould next make three ablutions with the prayers, "Waters! ſince ye afford delight, &c." at the ſame time throwing water eight times on his head, or towards the ſky, and once on the ground as before; and again make ſimilar ablutions with the following prayer: "As a tired man leaves drops of ſweat at the foot of a tree; as he who "bathes is cleanſed from all foulneſs; as an oblation is ſanctified by holy "graſs; ſo may this water purify me from ſin." And another ablution with the expiatory text, which rehearſes the creation. He ſhould next fill the palm

of

of his hand with water, and preſenting it to his noſe, inhale the fluid by one noſtril, and, retaining it for a while, exhale it through the other, and throw away the water towards the north-eaſt quarter. This is conſidered as an internal ablution, which waſhes away ſins. He concludes by ſipping water with the following prayer, "Water! thou doſt penetrate all beings; thou doſt reach "the deep receſſes of the mountains; thou art the mouth of the univerſe; "thou art ſacrifice: thou art the myſtick word *vaſha*; thou art light, taſte, and "the immortal fluid."

After theſe ceremonies, he proceeds to worſhip the ſun, ſtanding on one foot, and reſting the other againſt his ankle or heel, looking towards the eaſt, and holding his hands open before him in a hollow form. In this poſture he pronounces to himſelf the following prayers: 1ſt, "The rays of light announce the "ſplendid fiery ſun, beautifully riſing to illumine the univerſe." 2nd, "He "riſes, wonderful, the eye of the ſun, of water, and of fire, collective power "of gods; he fills heaven, earth, and ſky, with his luminous net; he is the "ſoul of all which is fixed or locomotive." 3d, "That eye, ſupremely bene-"ficial, riſes pure from the eaſt; may we ſee him a hundred years; may we "live a hundred years; may we hear a hundred years." 4th, "May we, pre-"ſerved by the divine power, contemplating heaven above the region of dark-"neſs, approach the deity, moſt ſplendid of luminaries." The following prayer may be alſo ſubjoined, "Thou art ſelf-exiſtent, thou art the moſt excellent "ray; thou giveſt effulgence: grant it unto me." This is explained as an alluſion to the ſeven rays of the ſun; four of which are ſuppoſed to point towards the four quarters, one upwards, one downwards, and the ſeventh, which is centrical, is the moſt excellent of all; and is here addreſſed, in a prayer, which

is explained as ſignifying, " May the ſupreme ruler, who generates all things, whoſe luminous ray is ſelf-exiſtent, who is the ſublime cauſe of light, from whom worlds receive illumination, be favourable to us." After preſenting an oblation to the ſun, in the mode to be forthwith explained, the *Gáyatri* muſt be next invoked, in theſe words: " Thou art light; thou art ſeed; thou art immortal life; thou art effulgent: beloved by the gods, defamed by none, thou art the holieſt ſacrifice." And it ſhould be afterwards recited meaſure by meaſure; then the two firſt meaſures as one hemiſtich, and the third meaſure as the other; and, laſtly, the three meaſures without interruption. The ſame text is then invoked in theſe words: " Divine text, who doſt grant our beſt wiſhes, whoſe name is triſyllable, whoſe import is the power of the Supreme Being; come thou mother of the *védas*, who didſt ſpring from BRA'HME, be conſtant here." The *Gáyatri* is then pronounced inaudibly with the triliteral monyſyllable, and the names of the three lower worlds, a hundred or a thouſand times, or as oftan as may be practicable, counting the repetitions on a roſary of gems ſet in gold, or of wild grains. For this purpoſe, the ſeeds of the *putrajiva*, vulgarly named *pitonhia*, are declared preferable. The following prayers from the *Viſhnu purána*, conclude theſe repetitions *: " Salutation to

* " I omit the very tedious detail reſpecting ſins expiated by a ſet number of repititions; but in one inſtance, as an atonement for unwarily eating or drinking what is forbidden, it is directed, that eight hundred repititions of the *Gayatri* ſhould be preceded by three ſuppreſſions of breath, touching water during the recital of the following text: 'The bull roars; he has four horns; three feet, two heads, ſeven hands, and is bound by a threefold ligature: he is the mighty reſplendent being, and pervades mortal men.' The bull is juſtice perſonified. His four horns are the Brahma or ſuperintending prieſt, the *Udgatri* or chanter of the *Samadeva*, the *Hotii* or reader of the *Rigveda*, who performs the eſſential part of a religious ceremony, and *Adhwarin*, who ſits in the ſacred cloſe and chants the *Yajurveda*. His three feet are the three *vedas*. Oblations and ſacrifice are his two heads, roaring ſtupendouſly. His ſeven hands are the *Hotri*, *Mactravaruma*, *Bramanach bandaſi*, *Gravaſtata*, *Adchhavac*, *Niſhtri*, and *Potri*, names by which officiating prieſts are deſigned at certain ſolemn rites. The threefold ligature by which he is bound, is worſhipped in the morning, at noon, and in the evening."

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" the ſun; to that luminary, O BRA'HME, who is the light of the pervader, the " true generator of the univerſe, the cauſe of efficacious rites." 2nd, " I bow to " the great cauſe of day (who's emblem is a full blown flower of the *yava* tree) " the mighty luminary ſprung from CASYAPA, the foe of darkneſs, the de- " ſtroyer of every ſin:" or the prieſt walks a turn through the ſouth, rehearſing a ſhort text, " I follow the courſe of the ſun;" which is thus explained, " As " the ſun, in his courſe, moves round the world by the way of the ſouth, ſo do " I, following that luminary, obtain the benefit ariſing from a journey round " the earth, by the way of the ſouth."

The oblation above mentioned, and which is called *Arg'há*, conſiſts of *tila*, flowers, barley, water, and red ſanders wood, in a clean copper veſſel made in the ſhape of a boat; this the prieſt places on his head, and thus preſents it with the following text, " He who travels the appointed path (namely the ſun) is " preſent in that pure orb of fire, and in the ethereal region, he is the ſacrificer " at religious rites, and he ſits in the ſacred cloſe, never remaining a ſingle day " in the ſame ſpot, yet preſent in every houſe, in the heart of every human " being, in the moſt holy manſion, in the ſubtle ether, produced in water, in " earth, in the abode of truth, and in the ſtony mountains; he is that, which " is both minute and vaſt." This text is explained as ſignifying, that the ſun is a manifeſtation of the ſupreme being, preſent every where, produced every where, pervading every place and thing. The oblation is concluded by wor- ſhipping the ſun with the ſubjoined text, " His rays, the efficient cauſes of knowledge, irradiating worlds, appear like ſacrificial fires."

Preparatory to any act of religion, ablutions muſt be again performed in the form preſcribed for the mid-day bath; the practice of bathing at noon

noon is likewiſe enjoined as requiſite to cleanlineſs, conducive to health, and efficacious in removing ſpiritual as well as corporeal defilements: it muſt nevertheleſs be omitted by one who is afflicted with diſeaſe; and a healthy perſon is forbidden to bathe immediately after a meal, and without laying aſide his jewels and other ornaments. If there be no impediment, ſuch as thoſe now mentioned or formerly noticed, in ſpeaking of early ablutions he may bathe with water drawn from a well, from a fountain, or from a baſon of a cataract; but he ſhould prefer water which lays above ground, chooſing a ſtream rather than ſtagnant water, a river in preference to a ſmall brook, a holy ſtream before a vulgar river, and, above all, the water of the Ganges. In treating of the bath authors diſtinguiſh various ablutions, properly and improperly ſo called, ſuch as rubbing the body with aſhes, which is named a bath ſacred to fire, plunging into water, a bath ſacred to the regent of this element: ablutions accompanied by the prayers, "O waters! ſince ye afford delight, &c." which conſtitute the holy bath: ſtanding in duſt raiſed by the treading of cows, a bath denominated from wind or air; ſtanding in the rain during daylight, a bath named from the ſky or atmoſphere. The ablution or bath properly ſo called are performed with the following ceremonies.

After bathing and cleaning his perſon and pronouncing as a vow, "I will now perform ablutions," he who bathes ſhould invoke the holy river; "O *Ganga*, *Yamuna*, *Saraſwati*, *Satadru*, *Marudvid'ha*, and *Jiyiciya!* hear my prayers; for my ſake be included in this ſmall quantity of water with the holy ſtreams of *Paruſhti Aſieni*, and *Vitaſta*." He ſhould alſo utter the *radical prayer* conſiſting of the words "Salutation to *Nárâyana*." Upon this occaſion a prayer extracted from the *Padma purána* is often uſed with this ſalutation called the *radical text*; and the ceremony is at once concluded by taking up the earth

and

and pronouncing the ſubjoined prayers: "Earth, ſupporter of all things, "trampled by horſes, traverſed by cars, trodden by VISHNU! whatever ſin "has been committed by me, do thou, who art upheld by the hundred "armed CRĬSHNA, incarnate in the ſhape of a boar, aſcend my limbs, and "remove every ſuch ſin."

The text extracted from the *padma purâna* follows: "thou didſt ſpring from "the foot of VISHNU daughter of VISHNU, honoured by him; therefore pre- "ſerve us from ſin, protecting us from the day of our birth, even unto death. "The regent of air has named thirty-five millions of holy places in the ſky, "on earth, and in the ſpace between; they are all compriſed in the daughter "JAHNU. Thou art called ſhe, who promotes growth, among the gods: thou "art named the lotos; able, wife of PRĬTHU, bird, body of the univerſe, wife of "SIVA, nectar, female cheriſher of ſcience, cheerful, favouring worlds; mer- "ciful, daughter of JAHNU, conſoler, giver of conſolation. *Ganga*, who "flows through the three worlds, will be near unto him, who pronounces theſe "pure titles during his ablution.

When the ceremony is preferred in its full detail, the regular prayer is a text of the *véda*. "Thrice did VISHNU ſtep, and at three ſtrides traverſed the uni- "verſe: happily was is foot placed on this duſty earth. Be this oblation effi- "cacious!" By this prayer it meant, "May the earth, thus taken up, purify "me." Cow dung is next employed with a prayer importing, "Since I take "up cow dung, invoking thereon the goddeſs of abundance, may I obtain "proſperity!" the literal ſenſe is this: "I here invoke that goddeſs of abun- "dance, who is the vehicle of ſenell, who is irreſiſtible, ever white, preſent "in this cow dung, miſtreſs of all beings, greateſt of elements, ruling "all the ſenſes." Water is afterwards held up in the hollow of both hands joined

joined, while the prayer denominated from the regent of water is pronounced: "Becauſe VARUNA, king of waters, ſpread a road for the ſun, therefore do I follow that route. Oh! he made that road in untrodden ſpace, to receive the footſteps of the ſun. It is he who reſtrains the heart-rending wicked." The ſenſe is. "VARUNA, king of waters, who curbs the wicked, made an expanded road in the other real region to receive the rays of the ſun; I therefore follow that route." Next, previous to ſwimming, a ſhort prayer muſt be meditated: "Salutation to the regent of water! paſt are the fetters of VARUNA." This is explained as importing that the diſpleaſure of VARUNA, at a man's traverſing the waters which are his fetters, is averted by ſalutation: ſwimming is therefore preceded by this addreſs. The prieſt ſhould next recite the invocation of holy rivers, and thrice throw water on his head from the hollow of both hands joined, repeating three ſeveral texts: 1ſt. "Waters! remove this ſin, "whatever it be, which is in me; whether I have done any thing malicious "towards others, or curſed them in my heart, or ſpoken falſehoods." 2d. "Waters! mothers of worlds! purify us; cleanſe us by the ſprinkled fluid ye "who purify through libations; for, ye, divine waters, do remove every ſin." 3d. "As a tired man leaves drops of ſweat at the foot of a tree, &c." Again, ſwimming and making a circuit through the ſouth, this prayer ſhould be recited: "May divine waters be auſpicious to us for accumulation, for gain, "and for refreſhing draughts: may they liſten to us, that we may be aſſociate "with good auſpices." Next reciting the following prayer the prieſt ſhould thrice plunge into water: "O conſummation of ſolemn rites! who doſt purify "when performed by the moſt greivous offenders; thou doſt invite the baſeſt "criminals to purification; thou doſt expiate the moſt heinous crimes. I "atone for ſins towards the gods by gratifying them with oblations and ſacri-"fice; I expiate ſins towards mortals by employing mortal men to offici-

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" ate at ſacraments. Therefore defend me from the pernicious ſin of offending " the gods."

Water muſt be next ſipped with the prayer, " Lord of ſacrifice, thy heart is " in the midſt of the waters of the ocean, &c." and the invocation of holy rivers is again recited. The prieſt muſt thrice throw up water with the three prayers, " O waters, ſince ye afford delight, &c." and again, with the three ſubjoined prayers: 1ſt, " May the Lord of thought purify me with an uncut blade of " *cuſa* graſs, and with the rays of the ſun. Lord of purity, may I obtain that " coveted innocence, which is the wiſh of thee, who is ſatisfied with this obla- " tion of water and of me, who am purified by this holy graſs." 2nd, " May " the Lord of ſpeech purify me, &c." 3d. " May the reſplendent ſun purify " me, &c." Thrice plunging into water, the prieſt ſhould as often repeat the grand expiatory text, of which YAJNYAWALCY'A ſays, " it compriſes the prin- " ciples of things, and the elements, the exiſtence of the (chaotick) maſs, " the production and deſtruction of worlds." This ſerves as a key to explain the meaning of the text, which being conſidered as the eſſence of the *védas*, is moſt myſterious. The author before me, ſeems to undertake the explanation of it with great awe, and intimates, that he has no other key to its meaning, nor the aid of earlier commentaries. " The Supreme Being alone exiſted; af- " terwards there was univerſal darkneſs; next the watery ocean was produced, " by the diffuſion of virtue; then did the Creator, lord of the univerſe riſe " out of the ocean, and ſucceſſively frame the ſun and moon, which govern " day and night, whence proceeds the revolution of years; and after them he " framed heaven and earth, the ſpace between, and the celeſtial region." The terms with which the text begins, both ſignify truth, but here explained as de- noting the ſupreme BRA'HME, on the authority of a text quoted from the *véda*;

" BRA'HME is truth, the one immutable being. He is truth and everlaſting " knowledge." ' During the period of general annihilation, ſays the commen- ' tator, the Supreme Being alone exiſted. Afterwards, during that period, night ' was produced; in other words, there was univerſal darkneſs.' " This uni- " verſe exiſted only in darkneſs, imperceptible, undefinable, undiſcoverable by " reaſon, and undiſcovered by revelation as if it were wholly immerſed in " ſleep." (MENU, ch. I. v. 5.) Next, when the creation began, the ocean was produced by an unſeen power univerſally diffuſed; that is, the element of wa- ter was firſt reproduced, as the means of the creation: " He firſt, with a " thought, created the waters, &c." (MENU, ch. I. v. 8.) Then did the Creator, when lord of the univerſe, riſe out of the waters. ' The lord of the ' univerſe, annihilated by the general deſtruction, revived with his own crea- ' tion of the three worlds.' Heaven is here explained the expanſe of the ſky above the region of the ſtars. The celeſtial region is the middle world and heavens above. The author before me, has added numerous quotations on the ſublimity and efficacy of this text, which MENU compares with the ſacrifice of a horſe, in reſpect of its power to obliterate ſins.

After bathing, while he repeats this prayer, the prieſt ſhould again plunge into water, thrice repeating the text, " As a tired man leaves drops of ſweat at " the foot of a tree, &c." Afterwards, to atone for greater offences, he ſhould meditate the *Gáyatri*, &c. during three ſuppreſſions of breath. He muſt alſo recite it meaſure by meaſure, hemiſtich by hemiſtich; and laſtly, the entire text without any pauſe. As an expiation of the ſin of eating with men of very low tribes, or of coveting or accepting what ſhould not be received, a man ſhould plunge into water, at the ſame time reciting a prayer which will be quoted on another occaſion. One who has drunk ſpirituous liquors ſhould traverſe

traverſe water up to his throat, and drink as much expreſſed juice of the moon-plant, as he can take up in the hollow of both hands, while he meditates the triliteral monoſyllable, and then plunge into water, reciting the ſubjoined prayer, " O RUDRA ! hunt not our offspring and deſcendants ; abridge not the " period of our lives ; deſtroy not our cows ; kill not our horſes ; ſlay not our " proud and irritable folks ; becauſe, holding oblations, we always pray " to thee."

Having finiſhed his ablutions, and coming out of the water, putting on his apparel after cleanſing it, having waſhed his hands and feet, and having ſipped water, the prieſt ſits down to worſhip in the ſame mode, which was directed after the early bath ; ſubſtituting, however, the following prayer, in lieu of that which begins with the words, " May the ſun, ſacrifice, &c." " May the " waters purify the earth, that ſhe, being cleanſed, may purify me : may the " lord of holy knowledge purify her, that ſhe being cleanſed by holineſs, may " purify me : may the waters free me, from every defilement, whatever be my " uncleanneſs, whether I have eaten prohibited food, done forbidden acts, or " accepted the gifts, of diſhoneſt men." Another difference between worſhip at noon and in the morning, conſiſts in ſtanding before the ſun with uplifted arms, inſtead of joining the hands in a hollow form. In all other reſpects the form of adoration is ſimilar.

Having concluded this ceremony, and walked in a round beginning through the ſouth, and ſaluted the ſun, the prieſt may proceed to ſtudy a portion of the *veda*. Turning his face towards the eaſt, with his right hand towards the ſouth, and his left hand towards the north, ſitting down with the *cuſa* graſs before him, holding two ſacred blades of graſs on the tips of his left fingers, and placing his right hand thereon, with the palm turned upwards, and having thus meditated the *Gáyatri*, the prieſt ſhould recite the proper text on commencing the

lecture, and read as much of the *védas* as may be practicable for him, continuing the practice daily until he have read the whole of the *védas*; and then recommencing the course.

Prayer on beginning a lecture of the *Rigveda*: "I praise the blazing fire, "which is first placed at religious rites, which effects the ceremony, for the "benefit of the votary, which performs the essential part of the rite, which is "the most liberal giver of gems."

On beginning a lecture of the *Yajurveda*: "I gather thee, O branch of the "*véda*, for the sake of rain; I pluck thee for the sake of strength. Calves! ye "are like unto air; (that is, as wind supplies the world by means of rain, so do "ye supply sacrifices by the milking of cows). May the luminous generator of "worlds, make you attain success in the best of sacraments."

On the beginning a lecture of the *Samaveda*: "Regent of fire, who dost ef-"fect all religious ceremonies, approach to taste my offering; thou who art "praised for the sake of oblations, sit down on this grass."

The text which is repeated on commencing a lecture of the *Atharva véda* has been already quoted on another occasion: "May divine waters be auspi-"cious to us, &c."

In this manner should a lecture of the *védas*, or of the *védangas*, of the sacred poems and mythological history of law and other branches of sound literature be conducted. The priest should next proceed to offer barley, *tila* and water to the manes. Turning his face towards the east, wearing the sacrificial cord on his left shoulder, he should sit down and spread *cusa* grass before him with

with the tips pointing towards the eaſt. Taking grains of barley in his right hand, he ſhould invoke the gods. "O aſſembled gods! hear my call, ſit "down on this graſs;" then throwing away ſome grains of barley, and putting one hand over the other, he ſhould pray in theſe words: "Gods! who reſide "in the ethereal region, in the world near us, and in heaven above; ye whoſe "tongues are flame, and who ſave all them who duly perform the ſacraments, "hear my call, ſit down on this graſs, and be cheerful." Spreading the *cuſa* graſs, the tips of which muſt point towards the eaſt, and placing his left hand thereon, and his right hand above the left, he muſt offer grains of barley and water from the tips of his fingers, (which are parts dedicated to the gods,) holding three ſtraight blades of graſs, ſo that the tips be towards his thumb, and repeating this prayer: "May the gods be ſatisfied; may the holy verſes, "the ſcriptures, the devout ſages, the ſacred poems, the teachers of them, and "the celeſtial quiriſters, be ſatisfied; may other inſtructors, human beings, "minutes of time, moments, inſtants meaſured by the twinkling of an eye, "hours, days, fortnights, months, ſeaſons, and years, with all their compo- "nent parts be ſatisfied herewith *." Next wearing the ſacrificial thread round his neck, and turning towards the north, he ſhould offer *tila*, or grains of barley with water, from the middle of his hand (which is a part dedicated to human beings), holding in it *cuſa* graſs, the middle of which muſt reſt on the palm of his hand: this oblation he preſents on graſs, the tips of which are pointed towards the north; and with it he pronounces theſe words: "May "SANACA be ſatisfied; may SAMANDANA, SANATANA, CAPILA, ASURI, "BODHU, and PARCHASICHA, be ſatisfied herewith." Placing the thread, &c. on his right ſhoulder, and turning towards the ſouth, he muſt offer *tila* and wa-

* The verb is repeated with each term, "May the holy verſes be ſatisfied; may the *vedas* be "ſatisfied, &c."

ter

ter from the root of his thumb (which is a part ſacred to the progenitors of mankind) holding bent graſs thereon; this oblation he ſhould preſent upon a veſſel of rhinoceros' horn placed on graſs, the tips of which are pointed towards the ſouth; and with it he ſays, "May fire, which receives oblations, pre-"ſented to our forefather be ſatisfied herewith; may the moon, the judge of "departed ſouls, the ſun, the progenitors who are purified by fire, thoſe who "are named from their drinking the juice of the moon-plant, and thoſe who "are denominated from ſitting on holy graſs, be ſatisfied herewith!" He muſt then make a ſimilar oblation, ſaying, "May NA'RA'S'ARYA, PA'RA'S'ARYA, S'UCA, "SA'CALYA, YAJ'NYAWALCYA, JA'TUCARN'A, CA'TYA'YANA, APASTAMBA, "BAUD'HA'YANA, VA'CHACUT'I', VACJAVA'PI', HU'HU', LO'CA'CSHI', MAI-"TRA'YAN'I', and AINDRA'YAN'I', be ſatisfied herewith." He afterwards offers three oblations of water mixed with *tila*, from the hollow of both hands joined, and this he repeats fourteen times with the different titles of YAMA, which are conſidered as fourteen diſtinct forms of the ſame deity. "Salutation to YAMA, "ſalutation to DHERMARAJA, or the king of deities, to death, to ANTACA "or the deſtroyer, to VAIVASWATA or the child of the ſun, to time, to the "ſlayer of all beings, to AUDHUMBARA or YAMA ſpringing out of the race-"rous fig tree, to him who reduces all things to aſhes, to the dark-blue "deity to him who reſides in the ſupreme abode, to him whoſe belly is like "of a wolf, to the variegated being, to the wonderful inflictor of pains." Taking up grains of *tila*, and throwing them away, while he pronounces this addreſs to fire: "Eagerly we place and ſupport thee; eagerly we give thee "fuel; do thou fondly invite the progenitors, who love thee, to taſte this pious "oblation." Let him invoke the progenitors of mankind in theſe words: "May our progenitors, who are worthy of drinking the juice of the moon-"plant, and they who are purified by fire, approach us through the paths

"which

" which are travelled by gods; and pleaſed with the food preſented at the ſa-
" crament, may they aſk for more, and preſerve us from evil." He ſhould then offer a triple oblation of water with both hands, reciting the following text, and ſaying, " I offer this *tila* and water to my father, ſuch a one ſprung " from ſuch a family." He muſt offer ſimilar oblations to his paternal grandfather, great grandfather; and another ſet of ſimilar oblations to his maternal grandfather, and to the father and grandfather of that anceſtor; a ſimilar oblation muſt be preſented to his mother, and ſingle oblations to his paternal grandmother and great grandmother: three more oblations are preſented, each to three perſons, paternal uncle, brother, ſon, grandſons, daughter's ſon, ſon-in-law, maternal uncles, ſiſter's ſon, father's ſiſter's ſon, mother's ſiſter, and other relations. The text alluded to bears this meaning: " Waters be the food of " our progenitors; ſatisfy my parents, ye who convey nouriſhment, which is " the drink of immortality, the fluid of libations, the milky liquor, the con-
" ſined and promiſed food of the manes."

The ceremony may be concluded with three voluntary oblations; the firſt preſented like the oblations to deities, looking towards the eaſt, and with the ſacrificial cord placed on his left ſhoulder. The ſecond like that of [illegible] to progenitors, looking towards the ſouth, and with the ſtring paſſed over [illegible] ſhoulder. The prayers which accompany theſe offerings are ſubjoined. " May the gods, demons, benevolent genii, huge ſerpents, heavenly quiriſters, " fierce giants, blood thirſty ſavages, unmelodious guardians of the celeſtial trea-
" ſure, ſucceſsful genii, ſpirits called *Cuſhmanda*, trees, and all animals, which move " in air or in water, which live on earth, and feed abroad, may all theſe quickly " obtain contentment, through the water preſented by me." 2nd. " To ſatisfy " them

"them who are detained in all the hells and places of torment, this water is "preſented by me." 3. "May thoſe, who are, and thoſe who are not, of "kin to me, and thoſe who were allied to me in a former exiſtence, and all "who deſire oblations of water from me obtain perfect contentment." The firſt text which is taken from the *Samaveda* differs a little from the *Yajurveda*. "Gods, benevolent genii, huge ſerpents, nymphs, demons, wicked beings, "ſnakes, birds of mighty wing, trees, giants; and all who traverſe the ethe- "real region, genii who cheriſh ſcience, animals that live in water or traverſe "the atmoſphere, creatures that have no abode, and all living animals which "exiſt in ſin or in the practice of virtue; to ſatisfy them is this water preſented "by me." Afterwards, the prieſt ſhould wring his lower garment pronouncing this text: "May thoſe who have been born in my family, and have died, "leaving no ſon nor kinſman, bearing the ſame name, be contented with this water which I preſent by wringing it from my veſture." Then placing his ſacrificial cord on his left ſhoulder, ſipping water, and raiſing up his arms, let him contemplate the ſun, reciting a prayer inſerted above: "He who tra- "vels the appointed path, &c." The prieſt ſhould afterwards preſent an obla- tion of water to the ſun pronouncing the text of the *Viſhnu purána* which has been already cited, "Salutation to the ſun," &c. He then concludes the whole ceremony by worſhipping the ſun with a prayer above quoted: "Thou "art ſelf-exiſtent," &c. by making a circuit through the ſouth while he pro- nounces, "I follow the courſe of the ſun;" and by offering water from the hollow of his hand while he ſalutes the regents of ſpace and other Deities. "Salutation to ſpace; to the regents of ſpace, to BRA'HMA, to the earth, to ſalu- "tary herbs, to fire, to ſpeech, to the lord of ſpeech, to the pervader, and to "the mighty Deity."

C. E. CAR-

C. E. CARRINGTON, ESQ.

Secretary to the Aſiatick Society.

SIR,

THE ſacrifice of human and other victims, and the ſacrificial rites celebrated by the *Hindus*, having being repreſented to me as a ſubject of curious inveſtigation, which, from a compariſon with the ceremonies uſed on ſimilar occaſions, by other ancient nations, might perhaps be intereſting, as well to the Society, as to the learned in *Europe*, I procured the *Calica Puran*, in which I was given to underſtand, I ſhould meet with full information on the ſubject. To effect this purpoſe, I tranſlated the *Rudhirádhyáyă* or ſanguinary chapter, which treats of human, as well as of other ſacrifices, in which blood is ſhed. I hope alſo in my next communication, to lay before the Society, a full account of the Goddeſs CALI, to whom theſe ſacrifices are made, and of the *Bhairăvăs*, ſons of SIVA, to two of whom the chapter is addreſſed by SIVA.

I am, &c. &c. &c.

W. C. BLAQUIERE.

Calcutta, Auguſt 15th, 1796.

XXIII.

THE RUDHIRA'DHYAYA,

OR SANGUINARY CHAPTER;

TRANSLATED FROM THE CALICA PURAN.

BY W. C. BLAQUIERE, ESQ.

SALUTATION TO CALICA.

[Shiva addreſſes Betal, Bhairava, and Bhairavi.]

I Will relate you, my ſons, the ceremonies and rules to be obſerved in ſacrifices, which being duly attended to are productive of the divine favour.

The forms laid down in the *vaiſhnavi Tantra*, are to be followed on all occaſions, and may be obſerved by ſacrificers to all Deities.

Birds, tortoiſes, allegators, fiſh, nine ſpecies of wild animals, buffaloes, bulls, he-goats, ichneumons, wild boars, rhinoceroſes, antelopes, guanas, rein-deer, lions, tygers, men, and blood drawn from the offerer's own body, are looked upon as proper oblations to the Goddeſs *Chandica*, the *Bhairavas*, &c.

It is through ſacrifices that princes obtain bliſs, heaven, and victory over their enemies.

The pleaſure which the Goddeſs receives from an oblation of the blood of fiſh

and tortoiſes is of one month's duration, and three from that of a crocodile. By the blood of the nine ſpecies of wild animals, the Goddeſs is ſatisfied nine months, and for that ſpace of time continues propitious to the offerer's welfare. The blood of the wild bull and guana give pleaſure for one year, and that of the antelope and wild boar for twelve years. The *Sărăbhă's* * blood ſatisfies the Goddeſs for twenty-five years, and buffalo's and rhinoceros's blood for a hundred, and that of the tyger an equal number. That of the lion, reindeer, and the human ſpecies produces pleaſure, which laſts a thouſand years. The fleſh of theſe, ſeverally, gives the Goddeſs pleaſure for the ſame duration of time as their blood. Now attend to the different fruits attending an offering of the fleſh of a rhinoceros or antelope, as alſo of the fiſh called *rohita*.

The fleſh of the antelope and rhinoceros pleaſes the Goddeſs five hundred years and the *rohita* fiſh and *Bardhrinaſa* give my beloved (i. e. the Goddeſs CALI delight for three hundred years.)

A ſpotleſs goat, who drinks only twice in twenty-four hours, whoſe limbs are ſlender, and who is the prime among a herd, is called a *Bardhrinaſa*, and is reckoned as the beſt of *Hăvyăs*, (i. e. offerings to the Deities); and *Căvyăs*, (i. e. offerings to deceaſed progenitors.)

The bird whoſe throat is blue and head red and legs black with white feathers, is called alſo *Bardhrinaſa*, and is king of the birds, and the favorite of me and VISHNU.

By a human ſacrifice attended by the forms laid down, DEVI is pleaſed

* Sarabhas, an animal of a very fierce nature, ſaid to have eight feet.

one

one thouſand years, and by a ſacrifice of three men, one hundred thouſand years. By human fleſh, *Cámác'hyá*, *Chăndicá*, and *Bhairăvă* who aſſumes my ſhape, are pleaſed one thouſand years. An oblation of blood which has been rendered pure by holy texts, is equal to ambroſia; the head and fleſh alſo afford much delight to the Goddeſs *Chăndicá*. Let therefore the learned, when paying adoration to the Goddeſs, offer blood and the head, and when performing the ſacrifice to fire, make oblations of fleſh.

Let the performer of the ſacrifice be cautious never to offer bad fleſh, as the head and blood are looked upon by themſelves equal to ambroſia.

The gourd, ſugar cane, ſpirituous liqours, and fermented liquors are looked upon as equivalent to other offerings, and pleaſe the Goddeſs for the ſame duration of time as the ſacrifice of a goat.

The performance of the ſacrifice, with a *Chăndrahâſá*, or *cătri* (two weapons of the ax kind) is reckoned the beſt mode, and with a hatchet or kniſe, or ſaw, or a ſangcul, the ſecond beſt, and the beheading with a hoe a *Bhăllăc* (an inſtrument of the ſpade kind), the inferior mode.

Excluſive of theſe weapons, no others of the ſpear or arrow kind ought ever to be uſed in performing a ſacrifice, as the offering is not accepted by the Goddeſs, and the giver of it dies. He who, with his hands, tears off the head of the conſecrated animal, or bird, ſhall be conſidered equally guilty with him who has ſlain a *Brâhmen*, and ſhall undergo great ſufferings.

Let not the learned uſe the ax, before they have invoked it by holy texts, which have been mentioned heretofore, and framed by the learned

for

for the occaſion; let thoſe I now tell you, be joined to them and the ax invoked, and particularly ſo, where the ſacrifice is to be made to the Goddeſſes *Durgá*, and *Cámác'hyá*.

Let the ſacrificer repeat the word CA'LI twice, then the words *Devi Bäjreſwari*, then *Lawhă Dăndáyai, Namah!* which words may be rendered *Hail! Cali, Cali! Hail! Devi!* goddeſs of thunder, *Hail iron* ſceptered Goddeſs! Let him then take the ax in his hand, and again invoke the ſame by the *Cálratriyă* text as follows.

Let the ſacrificer ſay *Hrang Hring. Cali, Cali!* O horrid toothed Goddeſs; eat, cut, deſtroy all the malignant, cut with this ax; bind, bind; ſeize, ſeize; drink blood; ſpheng, ſpheng; ſecure, ſecure. Salutations to *Cali*. Thus ends the *Calratriyă Măntră*.

The *Charga* (the ax) being invoked by this text called the *Cálratriyă Măntră, Cálrátri* (the Goddeſs of darkneſs) herſelf preſides over the ax uplifted for the deſtruction of the ſacrificer's enemies.

The ſacrificers muſt make uſe of all the texts directed previous to the ſacrifice, and alſo of the following, addreſſing himſelf to the victim.

Beaſts were created by the ſelf-exiſting, himſelf to be immolated at ſacrifices: I therefore immolate thee, without incurring any ſin in depriving thee of life.

Let the ſacrificer then name the Deity to whom the ſacrifice is made, and the purpoſe for which it is performed; and by the above text immolate the victim

victim, whoſe face is to be towards the north, or elſe let the ſacrificer turn his own face to the north, and the victim's to the eaſt. Having immolated, the victim, let him without fail mix ſalt, &c. as before mentioned with the blood.

The veſſel in which the blood is to be preſented, is to be according to the circumſtances of the offerer, of gold, ſilver, copper, braſs, or leaves ſewed together, or of earth, or of tutenague, or of any of the ſpecies of wood uſed in ſacrifices.

Let it not be preſented in an iron veſſel, nor in one made of the hide of an animal, or the bark of a tree; nor in a pewter, tin, or leaden veſſel. Let not the blood be repreſented in the holy veſſel named *ſrub* and *ſruch*, nor on the ground. Let it not be preſented in the *Ghătă* (i. e. an earthen jar always uſed in other religious ceremonies.) Let it not be preſented by pouring it on the ground, or into any of the veſſels uſed at other times for offering food to the Deity. Let not the good man who wiſhes for proſperity, offer the blood in any of of theſe veſſels. Human blood muſt always be preſented in a metalic or earthen veſſel; and never on any account in a veſſel made of leaves, or ſimilar ſubſtance.

The offering a horſe, except at the *Aſwamedha* ſacrifice, is wrong, as alſo offering an elephant, except at the *Găjă Medha*; let therefore the ruler of men obſerve never to offer them except on thoſe occaſions. And on no account whatſoever let him offer them to the Goddeſs *Devi*, uſing the wild bull called *Chánrără* as a ſubſtitute for the horſe, when the occaſion requires one.

Let

Let not a *Brâhmen* ever offer a lion or a tyger, or his own blood, or ſpirituous liquors to the Goddeſs Devi. If a *Brâhmen* ſacrifices either a lion, a tyger, or a man, he goes to hell, and paſſes but a ſhort time in this world attended with miſery and misfortune.

If a *Brâhmen* offers his own blood, his guilt is equal to that of the ſlayer of a *Brâhmen*; and if he offers ſpirituous liquors, he is no longer a Brâhmen.

Let not a *Cſhettree* offer an antelope: if he does, he incurs the guilt of a Brâhmen ſlayer; where the ſacrifice of lions, of tygers, or of the human ſpecies is required, let the three firſt claſſes act thus: having formed the image of the lion, tyger, or human ſhape with butter, paſte, or barley meal, let them ſacrifice the ſame as if a living victim, the ax being firſt invoked by the text *Nŏmō*, &c.

Where the ſacrifice of a number of animals is to take place it is ſufficient to bring and preſent two or three to the Deity, which ſerves as a conſecration of the whole. I have now related to you, O *Bhairăvă*, in general terms, the ceremonies and forms of ſacrifices: attend now to the different texts to be uſed on the ſeveral different occaſions.

When a buffalo is preſented to *Devi*, *Bhaivăree*, or *Bhairăvi* let the ſacrificer uſe the following Mantră in invoking the victim.

" In the manner that thou deſtroyeſt horſes, in the manner that thou carrieſt
" *Chăndieă*, deſtroy my enemies, and bear proſperity to me, O buffalo!

" On

" O ſteed of death, of exquiſite and unperiſhable form, produce me long " life and fame. Salutation to thee, O buffalo !"

Let him then addreſs the *Charga* (ax) calling it *Guhá Játă*, i. e. the cavern-born, and beſprinkle it with water, ſaying, " Thou art the inſtrument uſed in " ſacrifices to the gods and anceſtors, O ax ! of equal might with the wild " rhinoceros, cut aſunder my evils. O cavern-born ! ſalutation to thee again " again."

At the ſacrifice of an antelope, the following *Măntră* is to be uſed :

" O antelope ! repreſentative of BRA'HMA, the emblem of his glory, thou " who art even as the four *védas*, and learned, grant me extenſive wiſdom and " and celebrity."

At the ſacrifice of a *Sárăbhă*, let the following *Măntră* be uſed : " O *eight-* " footed animal ! O ſportful native of the *Chăndră Bhăgă* mountains ! thou " eight-formed long-armed animal *; thou who art called *Bhairăvă* : ſalutation " to thee again and again ! aſſume the terrifick form, under which thou de- " ſtroyeſt the wild boar, and in the ſame manner deſtroy my enemies."

At the ſacrifice of a lion : " O HERI, who, in the ſhape of a lion, beareſt " *Chăndicá*, bear my evils and avert my misfortunes. Thy ſhape, O lion ! was " aſſumed by HERI, to puniſh the wicked part of the human race, and under " that form, by truth, the tyrant *Hirănyă Căſipu* was deſtroyed." I have now

* A mark of eminence.

related to thee, O *Bhajrăvă*, who art void of ſin, the mode of paying adoration to the lion.

Now attend to the particulars relative to the offering of human blood.

Let a human victim be ſacrificed at a place of holy worſhip, or at a cemetery where dead bodies are buried. Let the oblation be performed in the part of the cemetery called *Heruca*, which has been already deſcribed, or at a temple of *Cámác'hyá*, or on a mountain. Now attend to the mode.

The cemetery repreſents me, and is called *Bhairăvă*, it has alſo a part called *Tăntrángă*; the cemetery muſt be divided into theſe two diviſions, and a third called *Heruca*.

The human victim is to be immolated in the eaſt diviſion, which is ſacred to *Bhairăvă*; the head is to be preſented in the ſouth diviſion, which is looked upon as the place of ſculls ſacred to *Bhairăví*, and the blood is to be preſented in the weſt diviſion, which is denominated *Heruca*.

Having immolated a human victim, with all the requiſite ceremonies at a cemetery or holy place, let the ſacrificer be cautious not to caſt eyes upon the victim.

On other occaſions alſo, let not the ſacrificer caſt eyes upon the victim immolated, but preſent the head with eyes averted.

The victim muſt be a perſon of good appearance, and be prepared by ablutions, and requiſite ceremonies, ſuch as eating conſecrated food the day before

fore, and by abſtinence from fleſh and venery; and muſt be adorned with chaplets of flowers and beſmeared with ſandal wood.

Then cauſing the victim to face the north, let the ſacrificer worſhip the ſeveral deities, preſiding over the different parts of the victim's body: let the worſhip be then paid to the victim himſelf by his name.

Let him worſhip *Bráhma* in the victim's *Bráhma Rhandra*, i. e. cave of *Bráhma*, cavity in the ſkull, under the ſpot where the *ſaturæ coronalis* and *ſagittalis* meet *. Let him worſhip the earth in his noſe, ſaying, *Medinyaih nămăh*, and caſting a flower; in his ears, *ácásă*, the ſubtil ether, ſaying, *ácáſáyă nămăh*; in his tongue, *ſarvata muc'ha*, (i. e. *Bráhma Agni*, &c. the regents of ſpeech, &c.) ſaying, *ſarvata muc'hăya nămăh*; the different ſpecies of light in his eyes, and *Viſhnu* in his mouth. Let him worſhip the moon on his forehead, and *Indra* on his right cheek, fire on his left cheek, death on his throat, at the tips of his hair the regent of the ſouth-weſt quarter, and *Varuna* between the eye-brows; on the bridge of the noſe let him pay adoration to wind, and on the ſhoulders to *Dhănewără*, (i. e. god of riches,) then worſhipping the *sărpă rájà*, (i. e. king of ſerpents,) on the ſtomach of the victim, let him pronounce the following *Măntră*:

" O beſt of men! O moſt auſpicious! O thou who art an aſſemblage of all " the deities, and moſt exquiſite! beſtow thy protection on me, ſave me, thy " devoted, ſave my ſons, my cattle, and kindred; preſerve the ſtate, the mi- " niſters belonging to it, and all friends, and as death is unavoidable, part " with (thy organs of) life, doing an act of benevolence. Beſtow upon me,

* This is done by caſting a flower there, ſaying, *Brahmaye namah*; ſalutation to *Brahma*.

"O moſt auſpicious! the bliſs which is obtained by the moſt auſtere devotion,
"by acts of charity and performance of religious ceremonies; and at the ſame
"time, O moſt excellent! attain ſupreme bliſs thyſelf. May thy auſpices, O
"moſt auſpicious! keep me ſecure from *Rácſhaſas*, *Piſachos*, terrors, ſerpents,
"bad princes, enemies, and other evils; and death being inevitable, charm
"*Bhágavati* in thy laſt moments by copious ſtreams of blood ſpouting from the
"arteries of thy fleſhy neck."

Thus let the ſacrificer worſhip the victim, adding whatever other texts are applicable to the occaſion, and have been before mentioned.

When this has been done, O my children! the victim is even as myſelf, and the guardian deities of the ten quarters take place in him; then *Bráhma* and all the other deities aſſemble in the victim, and be he ever ſo great a ſinner, he becomes pure from ſin; and when pure, his blood changes to ambroſia, and he gains the love of *Me'hade'vi*, the Goddeſs of the *Yog Niddrá*, (i. e. *the tranquil repoſe of the mind from an abſtraction of ideas*;) who is the Goddeſs of the whole univerſe, the very univerſe itſelf. He does not return for a conſiderable length of time in the human form, but becomes a ruler of the *Gănă Devătăs*, and is much reſpected by me myſelf. The victim who is impure from ſin or ordure and urine, *Cámác'hyá* will not even hear named.

By the repetitions of the texts, and forms laid down for the ſacrifice of buffalos, and other animals, their bodies become pure and their blood acceptable to the Goddeſs *Shivá*.

On

On occaſions of ſacrifices to other deities alſo, both the deities and victims muſt be worſhipped, previous to the immolation.

The blind, the crippled, the aged, the ſick, the afflicted with ulcers, the hermophradite, the imperfectly formed, the ſcarred, the timid, the leprous, the dwarfiſh, and the perpetrator of *méhá pataca*, (heinous offences, ſuch as ſlaying a *Bráhmen*, drinking ſpirits, ſtealing gold, or defiling a ſpiritual teacher's bed,) one under twelve years of age, one who is impure from the death of a kinſman, &c. one who is impure from the death of *méhá guru*, (father and mother,) which impurity laſts one whole year: theſe ſeverally are unfit ſubjects for immolation, even though rendered pure by ſacred texts.

Let not the female, whether quadruped or bird, or a woman be ever ſacrificed; the ſacrificer of either will indubitably fall into hell, where the victims of either the beaſts or birds creation, are very numerous, the immolation of a female is excuſeable; but this rule does not hold good, as to the human ſpecies.

Let not a beaſt be offered under three months old, or a bird who is under three *pacſha* (forty-five days). Let not a beaſt or bird who is blind, difficient in a limb, or ill-formed, be offered to *Dévi*, nor one who is in any reſpect unfit, from the reaſons which have been ſet forth, when ſpeaking of the human race; let not animals and birds with mutilated tails, or ears, or broken teeth, or horns, be preſented on any account.

Let not a *Bráhmen* or a *Chandala* be ſacrificed; nor a prince; nor that which has been already preſented to a *Bráhmen*, or a deity; nor the offſpring

of

of a prince, nor one who has conquered in battle; nor the offspring of a *Brâhmen*, or of a *Cſhettree*; nor a childleſs brother, nor a father, nor a learned perſon, nor one who is in unwilling, nor the maternal uncle of the ſacrificer. Thoſe not here named, and animals, and birds of unknown ſpecies are unfit. If theſe named are not forthcoming, let their place be ſupplied by a male aſs or camel. If other animals are forthcoming, the ſacrifice of a tyger, camel, or aſs muſt be avoided.

Having firſt worſhipped the victim, whether human, beaſt, or bird, as directed, let the ſacrificer, immolate him uttering the *Mântrâ* directed for the occaſion, and addreſs the deity with the text laid down before.

Let the head and blood of a human victim be preſented on the right ſide of *Devi*, and the ſacrificer addreſs her ſtanding in front. Let the head and blood of a goat be preſented on the left, and the head and blood of a buffalo in front. Let the head and blood of birds be preſented on the left, and the blood of a perſon's own body in front. Let the ambroſia proceeding from the heads of carniverous animals and birds be preſented on the left hand, as alſo the blood of all aquatic animals.

Let the antelope's head and blood, and that of the tortoiſe, rhinoceros and hare and crocodile, and fiſh be preſented in front.

Let a lion's head and blood, be preſented on the right hand, and the rhinoceros's alſo; let not, on any account, the head or blood of a victim ever be preſented behind the Deity, but on the right, left, and in front.

Let

Let the conſecrated lamp, be placed either on the right hand, or in front but on no account, on the left. Let incenſe be burnt on the left, and in front, but not on the right hand. Let perfumes, flowers, and ornaments, be preſented in front; with reſpect to the different parts of the circle, where to preſent the offerings, the mode already laid down may be obſerved. Let *Mădirá* (ſpirituous liquor) be preſented behind other liquids on the left.

Where it is abſolutely neceſſary to offer ſpirits, let the three firſt claſſes of men ſupply their place, by cocoanut juice in a braſs veſſel, or honey in a copper one. Even in a time of calamity, let not a man of the three firſt claſſes, offer ſpirituous liquor, except that made from flowers, or ſtewed diſhes. Let princes, miniſters of ſtate, counſellors, and venders of ſpirituous liquors, make human ſacrifices, for the purpoſe of attaining proſperity and wealth.

If a human ſacrifice is performed, without the conſent of the prince, the performer incurs ſin. In caſes of imminent danger or war, ſacrifices may be performed at pleaſure, by princes themſelves and their miniſters, but by none elſe.

The day previous to a human ſacrifice, let the victim be prepared by the text *Mánastăc*, and three *Devi Suctăhs*, and the texts *Gandhă dwărăng*; and by touching his head with the ax, and beſmearing the ax with ſandal, &c. perfumes, and then taking ſome of the ſandal, &c. from off the ax, and beſmearing the victim's neck therewith.

Then

Then let the text *Ambé Ambicé*, &c. and the *Roudrĕ* and *Bhairăvă* texts be uſed, and *Dévi* herſelf will guard the victim who, when thus purified, malady does not approach him, nor does his mind ſuffer any derangement from grief and ſimilar cauſes, nor does the death or birth of a kinſman render him impure.

Now liſten to the good and bad *omens*, to be drawn from the falling of the head, when ſevered from the body.

If the head falls towards the north-eaſt, or ſouth-weſt, the prince of the country and offerer of the ſacrifice will both periſh.

If the human head, when ſevered from the body, falls in the following quarters, the following omens are to be drawn.

If in the eaſt, wealth; if in the ſouth-weſt, power; if in the ſouth, terror; if in the weſt, profit; if in the north-weſt, a ſon; if in the north, riches.

Liſten now to the omens to be drawn from the falling of the head of a buffalo, when ſevered from the body.

If in the north, property; the north-eaſt, loſs; in the eaſt, dominion; ſouth-eaſt, wealth; the ſouth, victory over enemies; if in the ſouth-weſt, fear; if in the weſt, attainment of kingdom, if in the north-eaſt, proſperity: this rule, O *Bhirăvă!* holds good for all animals, but not for aquatick or oviparous creatures.

If the heads of birds, or fiſhes, fall in the ſouth, or ſouth-eaſt, quarter, it indicates fear, and if any of the other quarters proſperity.

If

If a noiſe, proceeding from the chattering of the teeth of the victim's ſevered head, or ſnapping of the beak is perceptible, it indicates alarm. If tears proceed from the eyes of a human victim's ſevered head it indicates deſtruction to the prince.

If tears proceed from the ſevered head of a buffalo at the time of preſenting it, it indicates that ſome foreign inimical prince will die. If tears proceed from the eyes of other animals, they indicate alarm, or loſs of health.

If the ſevered head of a human victim ſmiles, it indicates increaſe of proſperity, and long life to the ſacrificer, without doubt; and if it ſpeak, whatever it ſays will come to paſs.

If the ſound *Hoonh* proceeds from the human victim's ſevered head, it indicates that the prince will die, if phlegm, that the ſacrificer will die. If the head utters the name of a deity, it indicates wealth to the ſacrificer within ſix months.

If at the time of preſenting the blood, the victim diſcharge fæces or urine, or turns about, it indicates certain death to the ſacrificer; if the victim kicks with his left leg, it indicates evil, but a motion of his legs in any other mode, indicates proſperity.

The ſacrificer muſt take ſome blood between his thumb and third finger, and diſcharge it towards the ſouth weſt on the ground, as an offering to the deities, accompanied by the *Mehă Cawſici Măntră*.

Let the victim offered to DEVI, if a buffalo, be five years old, and if human twenty-five.

Let the *Cawſici* * *Mántrá* be uttered, and the ſacrificer ſay *Eſhá báli Sevábá*, "Myſterious praiſe to this victim."

A prince *may ſacrifice his enemy*, having firſt invoked the ax with holy texts, by ſubſtituting a buffalo or goat, calling the victim by the name of the enemy throughout the whole ceremony.

Having ſecured the victim with cords, and alſo with ſacred texts, let him ſtrike off the head, and preſent it to *Devi*, with all due care. Let him make theſe ſacrifices in proportion to the increaſe or decreaſe of his enemies, lopping off the heads of victims for the purpoſe of bringing deſtruction on his foes, infuſing, by holy texts, the ſoul of the enemy into the body of the victim, which will, when immolated, deprive the foe of life alſo.

Let him firſt ſay, "O Goddeſs of horrid form, O *Chándicá!* eat, devour, "ſuch a one, my enemy, O conſort of fire! Salutation to fire! This is the "enemy who has done me miſchief, now perſonated by an animal: deſtroy "him, O *Mahamari!* Spheng! ſpheng! eat, devour." Let him then place flowers upon the victim's head. The victim's blood muſt be preſented with the *Mántrá* of two ſyllables.

If a ſacrifice is performed in this manner on the *Mehanawani* (the ninth of the moon in the month of *Aſſim,*) let the *homa*, (i. e. oblation to fire,) be performed with the fleſh of the victim.

* The *Cawſici Mantra*: "Hail *Cawſici!* three-eyed Goddeſs; of moſt terrifying appearance, "around whoſe neck a ſtring of human ſkulls is pendant, who art the deſtroyer of evil ſpi-"rits, who art armed with an ax, the foot of a bed and a ſpear, *Rbing Cawſici:* Salutation to thee "with this blood."

Uſing the texts which are laid down in the *Durga Tantra* and purified fire, let the *Homa* be performed after the ſacrifice, and it will procure the death of foes.

Let not any one preſent blood drawn from any part of the body below the navel, or from the back. Let not blood drawn from the lips, or chin, or from any limb, be preſented. Blood drawn from any part of the body, between the neck and navel, may be preſented, but violent inciſions for the purpoſe of obtaining it, muſt not be made.

Blood drawn from the checks, forehead, between the eye brows, from the tips of the ears, the arms, the breaſts, and all parts between the neck and navel, as alſo from the ſides, may be preſented.

Let not blood drawn from the ankles, or knees, or from parts of the body which branch out be preſented, nor blood which has not been drawn from the body for the expreſs purpoſe of being offered.

The blood muſt be drawn for the expreſs purpoſe of an oblation, and from a man pure in body and mind, and free from fear: it muſt be caught in the petal of a lotos, and preſented. It may be preſented in a gold, ſilver, braſs, or iron veſſel, with the due from, and texts recited.

The blood, if drawn by an inciſion made with a knife, ax, or *ſangcul*, gives pleaſure, in proportion to the ſize of the weapon.

The ſacrificer may preſent one fourth of the quantity which a lotos petal will contain, but he muſt not give more on any account; nor cut his body

more than is neceſſary. He who willingly offers the blood of his body and his own fleſh, the ſize of a grain of linſeed, *maſha*, *tila*, or *mudya*, with zeal and fervency, obtains what he deſires in the courſe of ſix months.

Now attend to the fruits obtained by offering *the burning wick* of a lamp placed upon the arms, ears, or breaſt, even for a ſingle moment. He who applies the ſame obtains happineſs and great poſſeſſions; and for three *Călpăs* is even as the body of *Dévi* herſelf; after which he becomes a ruler of the univerſe.

He who, for a whole night, ſtands before the Goddeſs *Sivă*, holding the head of a ſacrificed buffalo in his hands, with a burning lamp placed between the horns, obtains long life and ſupreme felicity in this world, and in the other reſides in my manſion, holding the rank of a ruler in the *Ganadevatas*.

He who, for a ſingle *ſhana*, (a ſhort ſpace of time,) holds the blood which proceeds from a victim's head in his hands, ſtanding before the Goddeſs in meditation, obtains all that he deſires in this world, and ſupremacy in the *Dévi Loe*.

Let the learned, when he preſents his own blood, uſe the following text followed by the *Mula Măntră*, or principal text uſed in the worſhip of the Goddeſs *Dévi*, under the form which ſhe is at that time addreſſed:

"Hail! ſupreme deluſion! hail! Goddeſs of the univerſe! Hail! "thou who fulfilleſt the deſires of all. May I preſume to offer thee, the "blood

" blood of my body; and wilt thou deign to accept it, and be propitious to-
" wards me."

Let the following text be uſed, when a perſon preſents his own fleſh:

" Grant me, O Goddeſs! bliſs, in proportion to the fervency with which
" I preſent thee with my own fleſh, invoking thee to be propitious to me. Salu-
" tation to thee again and again, under the myſterious ſyllables *hoong hoong*."

When the wick of a lamp is applied burning to the body, the following text is to be uſed:

" Hail! Goddeſs! Salutation to thee, under the ſyllables, *hōng hōng*.
" To thee I preſent this auſpicious luminary, fed with the fleſh of my body,
" enlightening all around, and expoſing to light alſo, the inward receſſes of
" my ſoul."

On the autumnal *Meha Navami*, or when the moon is in the lunar manſion *Scanda* or *Biſhácá*, let a figure be made, either of barley meal or earth, repreſenting the perſon with whom the ſacrificer is at variance, and the head of the figure be ſtruck off; after the uſual texts have been uſed, the following text is to be uſed in invoking an ax on the occaſion:

" Effuſe, effuſe blood; be terrifick, be terrifick; ſeize, deſtroy, for the
" love of *Ambicá*, the head of this enemy."

Having ſtruck off the head, let him preſent it, uſing the texts laid down hereafter for the occaſion, concluding with the word *phat*. Water muſt

be ſprinkled upon the meal, or earthen victim, which repreſents the ſacrificer's enemy, uſing the text commencing with *răcta drăbaih*, (i. e. by ſtreams of blood,) and marks muſt be made on the forehead with red ſanders; garlands of red flowers muſt be put round the neck of the image, and it muſt be dreſſed in red garments, and tied with red cords, and girt with a red girdle. Then placing the head towards the north, let it be ſtruck off with an ax, and preſented, uſing the *Scănda* text. This is to be uſed at preſenting the head, if the ſacrifice is performed on the night of the *Scănda Năcſhătra*, or lunar manſion *Scănda*. The *Viſăć'hă Măntră*, is to be uſed on the night the *Viſăć'hă* manſion. Let the ſacrificer contemplate two attendants on the Goddeſs, as having fiery eyes, with yellow bodies, red faces, long ears, armed with trident and axes in their two right hands, and holding human ſculls and vaſes in their two left. Let them be conſidered as having three eyes and ſtrings of human ſculls, ſuſpended round their necks, with long, ſtraggling, frightful teeth.

In the month of *Chaitra*, on the day of the full moon, ſacrifices of buffalos and goats give unto me of horrid form much pleaſure; as do alſo honey and fiſh, "O my ſons!"

Where a ſacrifice is made to *Chăndică*, the victim's head having been cut off, muſt be ſprinkled with water, and afterwards preſented with the texts laid down.

The ſacrificer may draw an augury from the motions of the ſlain victim when near expiring, and for ſo doing he muſt firſt addreſs the Goddeſs, conſidering the ſoul of the victim as taking its departure in a car, and his body as a holy ſpot, "O Goddeſs! make known unto me, whether the omens are favour-"able or not."

If the head of the ſlain victim, does not move ſome time after this, the ſacrificer may look upon the circumſtance as a good omen, and if the reverſe, as a bad one.

He who performs ſacrifices according to theſe rules, obtains his wiſhes to the utmoſt extent.

Thus are the rules and forms of ſacrifice, laid down and communicated by me to you. I will now inform you what other oblations may be made.

Thus ends the *Rudhirádhyáyă*.

XXIV.

AN ACCOUNT OF THE PEARL FISHERY IN THE GULPH OF MANAR,

IN MARCH AND APRIL 1797.

BY HENRY J. LE BECK, ESQ.

COMMUNICATED BY DOCTOR ROXBURG.

FROM the accounts of the former pearl fiſheries at *Ceylon*, it will be found, that none have ever been ſo productive as this year's. It was generally ſuppoſed that the renter would be infallibly ruined, as the ſum he paid for the preſent fiſhery was thought exorbitant when compared with what had been formerly given; but this conjecture in the event appeared ill founded, as it proved extremely profitable and lucrative.

The farmer this time was a *Tamul* merchant, who for the privilege of fiſhing with more than the uſual number of donies or boats, paid between two and and three hundred thouſand *Porto-novo* pagodas, a ſum nearly double the uſual rent.

Theſe boats he farmed out again to individuals in the beſt manner he could, but for want of a ſufficient number of divers ſome of them could not be employed.

The fiſhing, which commonly began about the middle of *February*, if wind and weather allowed, was this year, for various reaſons, delayed till the end of the month; yet ſo favourable was the weather, that the renter was able to take advantage of the permiſſion granted by the agreement, to fiſh a little longer than the uſual period of thirty days.

The fiſhery cannot well be continued after the ſetting in of the ſouthern monſoon, which uſually happens about the 15th of *April*, as, after that time, the boats would not be able to reach the pearl banks, and the water being then ſo troubled by heavy ſeas, diving would be impracticable; in addition to which, the ſea-weed, a ſpecies of *fucus*, driven in by the ſoutherly wind, and which ſpreads to a conſiderable diſtance from the ſhore, would be an impediment.

Many of the divers, being Roman Catholics, leave the fiſhery on *Sundays* to attend divine ſervice in their church at *Aripoo*; but if either a *Mahomedan* or *Hindoo* feſtival happens during the fiſhing days, or if it is interrupted by ſtormy weather, or any other accident, this loſt time is made up by obliging the Catholics to work on *Sundays*.

The fear of ſharks, as we ſhall ſee hereafter, is alſo another cauſe of interruption. Theſe, amongſt ſome others, are the reaſons that, out of two months, (from February till April,) ſeldom more than thirty days can be employed in the fiſhery.

As this time would be inſufficient to fiſh all the banks (each of which has its appropriate name, both in Dutch and Tamul,) it is carried on for three or four ſucceſſive years, and a new contract annually made till the whole banks have been fiſhed, after which they are left to recover.

The length of time required for this purpoſe, or from one general fiſhing to another, has not yet been exactly determined; it was, therefore, a practice to depute ſome perſons to viſit the banks annually, and to give their opinion, whether a fiſhery might be undertaken with any degree of ſucceſs * ?

* A gentleman, who aſſiſted at one of the laſt viſits, being an engineer, drew a chart of the banks, by which their ſituation and ſize are now better known than formerly.

From

From various accounts, which I have collected from good authority, and the experience of thoſe who aſſiſted at ſuch examinations, I conjecture, that every ſeven years ſuch a general fiſhery could be attempted with advantage, as this interval ſeems ſufficient for the pearl ſhells to attain their growth: I am alſo confirmed in this opinion, by a report made by a Dutch governor at *Jafnas* of all the fiſheries that have been undertaken at *Ceylon* ſince 1722; a tranſlation of which is to be found in Wolfe's Travels into *Ceylon*. But the ruinous condition in which the divers leave the pearl banks at each fiſhery, by attending only to the profit of individuals, and not to that of the public, is one great cauſe, that it requires twice the above mentioned ſpace of time, and ſometimes longer, for rendering the fiſhing productive. They do not pay the leaſt attention, to ſpare the young and immature ſhells that contain no pearl; heaps of them are ſeen thrown out of the boats as uſeleſs, on the beach between *Manâr* * and *Aripoo*; if theſe had been ſuffered to remain in their native beds, they would, no doubt, heve produced many fine pearls. It might, therefore, be adviſeable, to oblige the boat people to throw them into the ſea again, before the boats leave the bank. If this circumſpection, in ſparing the ſmall pearl ſhells, to perpetuate the breed was always obſerved, ſucceeding fiſheries might be expected ſooner, and with ſtill greater ſucceſs: but the neglect of this ſimple precaution will, I fear, be attended with ſimilar fatal conſequences here, as have already happened to the pearl banks on the coaſt of *Perſia*, *South America*, and *Sweden*, where the fiſheries are by no means ſo profitable at preſent as they were formerly.

Another cauſe of the deſtruction of numbers of both old and young pearl ſhells, is the anchoring of ſo many boats on the banks, almoſt all of them uſed

* *Manara*, properly *Manar*, is a *Tamul* word, and ſignifies a ſandy river, from the ſhallowneſs of the ſea at that place.

differently formed, clumſy, heavy, wooden anchors, large ſtones, &c. &c. If this evil cannot be entirely prevented, it might, at leaſt, be greatly leſſened, by obliging them all to uſe anchors of a particular ſort, and leſs deſtructive.

This ſeaſon the *Seewel* Bank only was fiſhed, which lies above twenty miles to the weſtward of *Aripoo*, oppoſite to the freſh water rivers of *Mooſalee Modragam* and *Pomparipoo*. It has been obſerved, that the pearls on the north-weſt part of this bank, which conſiſts of rock, are of a clearer water than thoſe found no the ſouth-eaſt, neareſt the ſhore, growing on corals and ſand.

Condatchey is ſituated in a bay, forming nearly a half moon, and is a waſte, ſandy diſtrict, with ſome miſerable huts built on it. The water is bad and brackiſh, and the ſoil produces only a few, widely ſcattered, ſtunted trees and buſhes. Thoſe perſons who remain here during the fiſhery are obliged to get their water for drinking from *Aripoo*, a village with a ſmall old fort, lying about four miles to the ſouthward. Tigers, porcupines, wild hogs, pangolines, or the *Ceylon armadillos*, are, amongſt other quadrupeds, here common. Of amphibia, there are tortoiſes, eſpecially the *teſtudo geometrica* and various kinds of ſnakes. A conchologiſt meets here with a large field for his enquiries. The preſents which I made to the people employed in the fiſhery, to encourage them to collect all ſorts of ſhells which the divers bring on ſhore, produced but little effect; as they were too much taken up in ſearching after the mother of pearl ſhells to pay attention to any other object. However, my endeavours were not entirely uſeleſs; I will ſpecify here a few of the number I collected during my ſtay: different kinds of *pectines* *, *palium porphyreum*, *ſolen radiatus* †, *Venus caſtrenſis*, *Linn.* ‡ *aſtrea hyotis* §, *oſtr. Forſkolii*,

* Scallops. † Radiated razor ſhell. ‡ Alpha cockle. § Double cocks-comb.

Forſkolii, oſtr. Malleus *, *mytilus hirundo Linn.* †, *ſpondilus crocius, pholas puſillus, Linn.* ‡, *mitra epiſcopalis, Linn., lepas ſtriata Pennanti, (vide Zool. Brit.), patella tricarinata, Linn., bulla perfecta maculata* §, *harpa nobilis, porcellana ſalita, Rumph.* ||, *ſtrombus ſcorpio*, and other of inferior kinds. Amongſt the *zoophytes*, many valuable ſpecies of *ſpongiæ, corallinæ, ſatulariæ*, &c. a great variety of ſea ſtars, and other marine productions, that cannot be preſerved in ſpirits, but ſhould be deſcribed on the ſpot. Theſe, as well as the deſcription of the different animals inhabiting the ſhells, are the more worthy of our attention, and deſerve farther inveſtigation, as we are yet very deficient in this branch of natural hiſtory.

During the fiſhing ſeaſon, the deſert, barren place, *Condatchey*, offers to our view a ſcene equally novel and aſtoniſhing. A heterogeneous mixture of thouſands of people of different colours, countries, caſts, and occupations, the number of tents and huts, erected on the ſea ſhore, with their ſhops or bazars before each of them; and the many boats returning on ſhore in the afternoon, generally richly laden; all together form a ſpectacle entirely new to an *European* eye. Each owner runs to his reſpective boat as ſoon as it reaches the ſhore, in hopes of finding it fraught with immenſe treaſure, which is often much greater in imagination than in the ſhell; and though he is diſappointed one day, he relies with greater certainty on the next, looking forward to the fortune promiſed him by his ſtars, as he thinks it impoſſible for the aſtrological predictions of his *Brahmen* to err.

* Hammer oyſter; theſe were pretty large, but many broken and ſome covered by a calcarious cruſt. It is very probable that, among thoſe, there may be ſome precious *white* ones.

† Swallow muſcle. ‡ The wood piercer. § Diving ſnail, (Grew, Muſ.)

|| Salt-coury, Kl.

To

To prevent riot and diſorder, an officer with a party of *Malays* is ſtationed here. They occupy a large ſquare, where they have a field piece and a flag ſtaff for ſignals.

Here and there you meet with brokers, jewellers, and merchants of all deſcriptions; alſo, ſuttlers offering proviſions and other articles to gratify the ſenſual appetite and luxury. But by far the greater number are occupied with the pearls. Some are buſily employed in aſſorting them; for which purpoſe they make uſe of ſmall braſs plates perforated with holes of different ſizes; others are weighing and offering them to the purchaſer; while others are drilling or boring them; which they perform for a trifle.

The inſtrument, theſe people carry about with them for this purpoſe, is of a very ſimple conſtruction, but requires much ſkill and exerciſe to uſe it; it is made in the following manner: the principal part conſiſts of a piece of ſoft wood, of an obtuſe, inverted, conical ſhape, about ſix inches high and four in diameter in its plain ſurface; this is ſupported by three wooden feet, each of which is more than a foot in length. Upon the upper flat part of this machine are holes, or pits, for the larger pearls, and the ſmaller ones are beat in with a wooden hammer. On the right ſide of this ſtool, half a cocoa nut ſhell is faſtened, which is filled with water. The drilling inſtruments are iron ſpindles, of various ſizes, adapted to the different dimenſions of the pearls, which are turned round in a wooden head by a bow. The pearls being placed on the flat ſurface of the inverted cone, as already mentioned, the operator ſitting on a mat, preſſes on the wooden head of his inſtrument with the left hand, while, with his right, he moves the bow which turns round the moveable part of the drill; at the ſame time, he moiſtens the pearl, occaſionally dipping

dipping the little finger of the ſame hand into the water of the cocoa nut ſhell, with a dexterity that can only be attained by conſtant practice.

Amongſt the crowd are found vagabonds of every deſcription, ſuch as *Pandarams*, *Andee*, or *Hindu* monks, fakirs, beggars, and the like, who are impertinently troubleſome. Two of theſe wretches particularly attracted the attention of the mob, though their ſuperſtitious pennance muſt have diſguſted a man of the leaſt reflection: one had a gridiron, of one and a half foot long and the ſame in breadth, faſtened round his neck, with which he always walked about, nor did he take it off either when eating or ſleeping; the other had faſtened round that member, which decency forbids me to mention, a braſs ring, and fixed to it was a chain, of a fathom in length, trailing on the ground, the links of this chain were as thick as a man's finger, and the whole was exhibited in a moſt ſcandalous manner.

The peſtilential ſmell occaſioned by the numbers of putrifying pearl fiſhes, renders the atmoſphere of *Condatchey* ſo inſufferably offenſive when the ſouth-weſt wind blows, that it ſenſibly affects the olfactory nerves of any one unaccuſtomed to ſuch cadaverous ſmells. This putrefaction generates immenſe numbers of worms, flies, muſkitoes, and other vermin; all together forming a ſcene ſtrongly diſpleaſing to the ſenſes.

Thoſe who are not provided with a ſufficient ſtock of money ſuffer great hardſhips, as not only all kinds of proviſions are very dear, but even every drop of good water muſt be paid for. Thoſe who drink the brackiſh water of this place are often attacked by ſickneſs. It may eaſily be conceived what an effect the extreme heat of the day, the cold of the night, the heavy dews, and the putrid ſmell, muſt have on weak conſtitutions. It is, therefore, no wonder that of thoſe

thoſe who fall ſick many die, and many more return home with fevers, fluxes, or other equally fatal diſorders.

The many diſappointments, uſually experienced be the lower claſſes of men in particular, make them often repent of their coming here. They are often ruined, as they riſk all they are worth to purchaſe pearl ſhells; however, there are many inſtances of their making a fortune beyond all expectation. A particular circumſtance of this kind fell within my now obſervation: a day labourer bought three oyſters * for a copper fanam (about the value of two-pence) and was ſo fortunate as to find one of the largeſt pearls which the fiſhery produced this ſeaſon.

The donies appointed for the fiſhery are not all procured at *Ceylon*; many came from the coaſts of *Coromandel* and *Malabar*, each of which has its diſtinguiſhing number. About ten o'clock at night a gun is fired as a ſignal, when they ſail from *Condatchey* with an eaſterly or land wind, under the direction of a pilot. If the wind continues fair, they reach the bank before day, and begin diving at ſun riſe, which they continue till the weſt or ſea breeze ſets in, with which they return. The moment they appear in ſight, the colours are hoiſted at the flag ſtaff, and in the afternoon they come to an anchor, ſo that the owners of the boats are thereby enabled to get their cargoes out before night, which may amount to 30,000 oyſters, if the divers have been active and ſucceſsful.

Each boat carries twenty-one men and five heavy diving ſtones for the uſe of ten divers, who are called in *Tamul, kooly kârer*, the reſt of the crew conſiſts of

* The *Eaſt India* pearl ſhell, is well known to be the *matrix perlarum* (mother of pearl) of RUMPHIUS, or the *Mytilus margaritiferus* of LINNEUS; conſequently the general term pearl oyſter muſt be erroneous; however, as it has long been in common uſe, I hope to be excuſed for continuing it.

a tan-

a tandel, or head boatman, and ten rowers, who aſſiſt in lifting up the divers and their ſhells.

The diving ſtone is a piece of coarſe granite, a foot long, ſix inches thick, and of a pyramidical ſhape, rounded at the top and bottom. A large hair rope is put through a hole in the top. Some of the divers uſe another kind of ſtone ſhaped like a half moon, to bind round their belly, ſo that their feet may be free. At preſent theſe are articles of trade at *Condatchey*. The moſt common, or pyramidical ſtone, generally weighs about thirty pounds. If a boat has more than five of them, the crew are either corporally puniſhed or fined.

The diving, both at *Ceylon* and at *Tutucorin*, is not attended with ſo many difficulties as authors imagine. The divers, conſiſting of different caſts and religions (though chiefly of *Parrawer* * and *Muſſelmans*,) neither make their bodies ſmooth with oil, nor do they ſtop their ears, mouths, or noſes with any thing, to prevent the entrance of ſalt water. They are ignorant of the utility of diving bells, bladders, and double flexible pipes. According to the injunctions of the ſhark conjurer they uſe no food while at work, nor till they return on ſhore, and have bathed themſelves in freſh water. Theſe *Indians*, accuſtomed to dive from their earlieſt infancy, fearleſſly deſcend to the bottom in a depth of, from five to ten fathoms in ſearch of treaſures. By two cords a diving ſtone and a net are connected with the boat. The diver putting the toes of his right foot on the hair rope of the diving ſtone, and thoſe of his left on the net, ſeizes the two cords with one hand, and ſhutting his noſtrils with the other, plunges into the water. On reaching the bot-

* Fiſhermen of the Catholic religion.

tom, he hangs the net round his neck, and collects into it the pearl ſhells as faſt as poſſible, during the time he finds himſelf able to remain under water, which uſually is about two minutes. He then reſumes his former poſture, and making a ſignal, by pulling the cords, he is immediately lifted into the boat. On emerging from the ſea, he diſcharges a quantity of water from his mouth and noſe, and thoſe who have not been long enured to diving frequently diſcharge ſome blood; but this does not prevent them from diving again in their turn. When the firſt five divers come up and are reſpiring the other five are going down with the ſame ſtones. Each brings up about one hundred oyſters in his net, and if not interrupted by any accident, may make fifty trips in a forenoon. They and the boat's crew get generally from the owner, inſtead of money, a fourth of the quantity which they bring on ſhore; but ſome are paid in caſh, according to agreement.

The moſt ſkilful divers come from *Colliſh*, on the coaſt of *Malabar*; ſome of them are ſo much exerciſed in the art, as to be able to perform it without the aſſiſtance of the uſual weight; and for a handſome reward will remain under water for the ſpace of ſeven minutes; this I ſaw performed by a *Caffry* boy, belonging to a citizen at *Karical*, who had often frequented the fiſheries of theſe banks. Though Dr. HALLEY deems this impoſſible, daily experience convinces us, that by long practice any man may bring himſelf to remain under water above a couple of minutes. How much the inhabitants of the South Sea Iſlands diſtinguiſh themſelves in diving we learn from ſeveral accounts; and who will not be ſurpriſed at the wonderful *Sicilian* diver NICHOLAS, ſurnamed the FISH*?

* According to KIRCHER, he fell a victim amongſt the *Polypes* in the gulph of *Charybdis*, on his plunging, for the ſecond time, in its dangerous whirlpool, both to ſatisfy the curioſity of his king, FREDERIC, and his inclination for wealth. I will not pretend to determine, how far this account has been exaggerated.

Every

Every one of the divers, and even the moſt expert, entertain a great dread of the ſharks, and will not, on any account, deſcend until the conjurer has performed his ceremonies. This prejudice is ſo deeply rooted in their minds, that the government was obliged to keep two ſuch conjurers always in their pay, to remove the fears of their divers. Thirteen of theſe men were now at the fiſhery from *Ceylon* and the coaſt, to profit by the ſuperſtitious folly of theſe deluded people. They are called in *Tamul*, *Pillăl Kadtăr*, which ſignifies one who binds the ſharks and prevents them from doing miſchief.

The manner of enchanting conſiſts in a number of prayers learned by heart, that nobody, probably not even the conjurer himſelf, underſtands, which he, ſtanding on the ſhore, continues muttering and grumbling from ſun riſe until the boats return; during this period, they are obliged to abſtain from food and ſleep, otherwiſe their prayers would have no avail, they are, however, allowed to drink, which privilege they indulge in a high degree, and are frequently ſo giddy, as to be rendered very unfit for devotion. Some of the conjurers accompany the divers in their boats, which pleaſes them very much, as they have their protectors near at hand. Nevertheleſs, I was told, that in one of the preceding fiſheries, a diver loſt his leg by a ſhark, and when the head conjurer was called to an account for the accident, he replied that an old witch had juſt come from the coaſt, who, from envy and malice, had cauſed this diſaſter, by a counter-conjuration, which made fruitleſs his ſkill, and of which he was informed too late; but he afterwards ſhewed his ſuperiority by enchanting the poor ſharks ſo effectually, that though they appeared in the midſt of the divers, they were unable to open their mouths. During my ſtay at *Condatchey*, no accident of this kind happened. If a ſhark is ſeen, the divers immediately make a ſignal, which, on perceiving, all the boats return in-

ſtantly. A diver who trod upon a hammer oyſter, and was ſomewhat wounded, thought he was bit by a ſhark, conſequently made the uſual ſignal, which cauſed many boats to return; for which miſtake he was afterwards puniſhed.

The owners of the boats * ſometimes ſell their oyſters, and at other times open them on their own account. In the latter caſe ſome put them on mats in a ſquare, ſurrounded with a fence; others dig holes of almoſt a foot deep, and throw them in till the animal dies; after which they open the ſhells and take out the pearls with more eaſe. Even theſe ſquares and holes are ſold by auction after the fiſhery is finiſhed, as pearls often remain there, mixed with the ſand.

In ſpite of every care, tricks in picking out the pearls from the oyſters can hardly be prevented. In this the natives are extremely dexterous. The following is one mode they put in practice to effect their purpoſe: when a boat owner employs a number of hired people to collect pearls, he places over them an inſpector of his own, in whom he can confide; theſe hirelings previouſly agree that one of them ſhall play the part of a thief, and bear the puniſhment, to give his comrades an opportunity of pilfering. If one of the gang happens to meet with a large pearl, he makes a ſign to his accomplice, who inſtantly conveys away one of ſmall value, purpoſely, in ſuch a manner as to attract notice. On this the inſpector and the reſt of the men take the pearl from him: he is then puniſhed and turned out of their company. In the mean time, while he is making a dreadful uproar, the real thief ſecures the valuable pearl, and afterwards the booty is ſhared with him who ſuffered for them all. Beſides

* Theſe are the individuals which farm one or more boats from the renter; and though they are in poſſeſſion of them only during the fiſhery, they are commonly called the owners of the boats.

tricks

tricks like theſe the boat owners and purchaſers often loſe many of the beſt pearls, while the dony is returning from the bank; for, as long as the animal is alive and untouched, the ſhells are frequently open near an inch; and if any of them contain a large pearl, it is eaſily diſcovered and taken out by means of a ſmall piece of ſtiff graſs or bit of ſtick, without hurting the pearl fiſh. In this practice they are extremely expert. Some of them were diſcovered whilſt I was there, and received their due puniſhment.

GMELIN aſks if the animal of the *mytilus margaritiferus* is an *aſcidia?* See LINN. Syſt. Nat. tom. I. p. vi. 3350. This induces me to believe that it has never yet been accurately deſcribed: it does not reſemble the *aſcidia* of LINNÆUS, and may, perhaps, form a new genus. It is faſtened to the upper and lower ſhells by two white flat pieces of muſcular ſubſtance, which are called by *Houttuin* ears*, and extend about two inches from the thick part of the body, growing gradually thinner. The extremity of each *ear* lies looſe, and is ſurrounded by a double brown fringed line. Theſe lie almoſt the third of an inch from the outer part of the ſhell, and are continually moved by the animal. Next to theſe, above and below, are ſituated two other double fringed moveable ſubſtances, like the branchiæ of a fiſh. Theſe *ears* and *fringes* are joined to a cylindrical piece of fleſh, of the ſize of a man's thumb, which is harder and of a more muſcular nature than the reſt of the body. It lies about the centre of the ſhells, and is firmly attached to the middle of each. This, in fact, is that part of the pearl fiſh which ſerves to open and ſhut the ſhells. Where this column is faſtened, we find on the fleſh deep impreſſions, and on the ſhell various nodes of round or oblong forms, like imperfect pearls. Between this part, and the hinge *(cardo)* lies the principal body of the animal, ſeparated

* Vide Houtt. Nat. Hiſt. Vol. I. p. xv. p. 381, ſeq.

from

from the reſt, and ſhaped like a bag. The mouth is near the hinge of the ſhell, enveloped in a veil, and has a double flap or lip on each ſide; from thence we obſerve the throat (œſophagus) deſcending like a thread to the ſtomach. Cloſe to the mouth there is a carved browniſh tongue, half an inch in length with an obtuſe point; on the concave ſide of this deſcends a furrow, which the animal opens and ſhuts, and probably uſes to convey food to its mouth*. Near its middle are two bluiſh ſpots, which ſeem to be the eyes. In a pretty deep hole near the baſe of the tongue, lies the beard *(byſſus)*, faſtened by two fleſhy roots, and conſiſting of almoſt one hundred fibres, each an inch long, of a dark green colour, with a metallic luſtre; they are undivided, parallel, and flattened. In general the *byſſus* is more than three quarters of an inch, without the cleft *(rima)*; but if the animal is diſturbed, it contracts it conſiderably. The top of each of theſe threads terminates in a circular gland or head, like the *ſtygma* of many plants. With this *byſſus* they faſten themſelves to rocks, corals, and other ſolid bodies; by it the young pearl fiſh cling to the old ones, and with it the animal procures its food, by extending and contracting it at pleaſure. Small ſhell fiſh, on which they partly live, are often found clinging to the former. The ſtomach lies cloſe to the root of the beard, and has, on its lower ſide, a protracted obtuſe point. Above the ſtomach are two ſmall red bodies, like lungs; and from the ſtomach goes a long channel or gut, which

* The depth at which the pearl fiſh generally is to be found, hindered me from paying any attention to the locomotive power, which I have not the leaſt doubt it poſſeſſes, uſing for this purpoſe its tongue. This conjecture is ſtrengthened by the accurate obſervations made on *muſcles* by the celebrated REAUMUR, in which he found that this body ſerves them as a leg or arm, to move from one place to another. Though the divers are very ignorant with regard to the œconomy of the pearl fiſh, this changing of habitation has been long ſince obſerved by them. They alledge, that it alters its abode when diſturbed by an enemy or in ſearch of food. In the former caſe they ſay it commonly deſcends from the ſummit of the bank to its declivity.

takes

a circuit round the muſcular column above-mentioned, and ends in the anus, which lies oppoſite to the mouth, and is covered with a ſmall thin leaf, like a flap. Though the natives pretend to diſtinguiſh the ſexes, by the appearance of the ſhell, I could not find any genitalia. The large flat ones they call males, and thoſe that are thick, concave, and vaulted, they call females, or *pedoo-chippy*; but, on a cloſe inſpection, I could not obſerve any viſible ſexual difference.

It is remarkable that ſome of theſe animals are as red as blood, and that the inſide of the ſhell has the ſame colour, with the uſual pearly luſtre, though my ſervants found a rediſh pearl in an oyſter of this colour; yet ſuch an event is very rare. The diver attributes this redneſs to the ſickneſs of the pearl fiſh; though it is moſt probable that they had it from their firſt exiſtence. In the ſhade they will live twenty-four hours after being taken out of the water. This animal is eaten by the lower claſs of *Indians*, either freſh in their curries, or cured by drying; in which ſtate they are exported to the coaſt; though I do not think them by any means palatable.

Within a mother of pearl ſhell I found thirteen *murices nudati* (vide CHEMNITZ's New Syſtem, Cabt. vol. XI. tab. 192, f. 1851 and 1852), the largeſt of which was three quarters of an inch long; but as many of them were putrid, and the pearl fiſh itſelf dead, I could not aſcertain whether they had crept in as enemies, or were drawn in by the animal itſelf. At any rate turtles and crabs are inimical to the animals, and a ſmall living crab was found in one of them.

The pearls are only in the ſofter part of the animal, and never in that firm muſcular column above-mentioned. We find them in general near the earth, and on both ſides of the mouth. The natives entertain the ſame

ſame fooliſh opinion concerning the formation of the pearl which the ancients did. They ſuppoſe them formed from dew-drops in connection with ſun-beams. A *Bráhmen* informed me that it was recorded in one of his *Sanſcrit* books, that the pearls are formed in the month of *May* at the appearance of the *Sooatee* ſtar (one of their twenty-ſeven conſtellations) when the oyſters come up to the ſurface of the water, to catch the drops of rain. One of the moſt celebrated conchologiſts *, ſuppoſes that the pearl is formed by the oyſter in order to defend itſelf from the attacks of the *pholades* and *borcworms*. But we may be aſſured that in this ſuppoſition he is miſtaken, for although theſe animals often penetrate the outer layers of the pearl ſhell, and there occaſion hollow nodes, yet, on examination, it will be found, that they are never able to pierce the firm layer, with which the inſide of the ſhell is lined. How can the pearls be formed as a defence againſt exterior worms, when, even on ſhells that contain them, no wormholes are to be ſeen? It is, therefore, more probable theſe worms take up their habitations in the nodes, in order to protect themſelves from the attacks of an enemy, than that they are capable of preying on an animal, ſo well defended as the pearl-fiſh is. It is unneceſſary to repeat the various opinions and hypotheſes of other modern authors; it is much eaſier to criticiſe them, than to ſubſtitute in their place a more rational theory. That of REAUMUR, mentioned in the memoirs of the *French* Academy for 1712, is the moſt probable, viz. that the pearls are formed like bezoars and other ſtones in different animals, and are apparently the effects of a diſeaſe. In ſhort it is very evident, that the pearl is formed by an extravaſation of a glutinous juice either within the body, or on the ſurface of the animal: the former caſe is the moſt common. Between one and two hundred pearls have been found within one oyſter. Such

* The Rev. Mr. CHEMNITZ at *Copenhagen*.

extra-

extravaſations may be cauſed by heterogeneous bodies, ſuch as ſand coming in with the food, which the animal, to prevent diſagreeable friction, covers with its glutinous matter, and which as it is ſucceſſively ſecreted forms many regular lamellæ, in the manner of the coats of an onion, or like different ſtrata of bezoars, only much thinner; this is probable, for if we cut through the centre of a pearl, we often find a foreign particle, which ought to be conſidered as the nucleus, or primary cauſe of its formation. The looſe pearls, may originally have been produced within the body, and on their encreaſe may have ſeparated and fallen into the cavity of the ſhell. Thoſe compact ones, fixed to the ſhells ſeem to be produced by ſimilar extravaſation, occaſioned by the friction of ſome roughneſs on the inſide of the ſhell. Theſe and the pearl-like nodes have a different aſpect from the pearls, and are of a darker and bluer colour. In one of the former I found a pretty large, true oval pearl, of a very clear water; while the node itſelf was of a dark blueiſh colour. The yellow or gold coloured pearl, is the moſt eſteemed by the natives; ſome have a bright, red, luſtre; others are grey or blackiſh, without any ſhining appearance, and of no value. Sometimes when the grey lamella of a pearl is taken off, under it is found a beautiful genuine one, but it oftener happens that after having ſeparated the firſt coat you find a worthleſs impure pearl. I tried ſeveral of them, taking one lamella off after another, and found clear and impure by turns, and in an impure pearl I met with one of a clear water, though in the centre of all I found a foreign particle. The largeſt and moſt perfect pearl which I ſaw during my ſtay at *Condatchey*, was about the ſize of a ſmall piſtol bullet, though I have been told ſince my departure, many others of the ſame ſize have been found. The ſpotted and irregular ones are ſold cheap, and are chiefly uſed by the native phyſicians as an ingredient in their medicines.

We may judge with greater or leſſer probability by the appearance of the pearl-ſhell, whether they contain pearls or not. Thoſe that have a thick calcareous cruſt upon them, to which *ſerpulæ* (ſea tubes) *Tubuli marini irregulariter intorti, Criſta-gali Chamar lazuras, Lepas tintinabulum, Madreporee, Millipore, Cellipore, Gorgontæ, Spongiæ,* and other Zoophytes are faſtened, have arrived at their full growth, and commonly contain the beſt pearls; but thoſe that appear ſmooth, contain either none, or ſmall ones only.

Were a naturaliſt to make an excurſion for a few months to *Manâr,* the ſmall iſland near *Jafna* and the adjacent coaſt, he would diſcover many natural curioſities, ſtill buried in obſcurity, or that have never been accurately deſcribed.

Indeed no place in the *Eaſt Indies* abounds more with rare ſhells, than theſe: for there they remain undiſturbed, by being ſheltered from turbulent ſeas, and the fury of the ſurf. I will juſt name a few of them; viz. *Tellina foliaca* LYNN *, *Tell, Spenglerii, Arca culculata* †, *Arca Noæ, ſolen anatinus* LINN. *Oſtrea Iſognomum, Terebullum, albidum, ſtriatum, Turbo ſcalaris* ‡ *Bula volva* LINN ||, *Vexillum ingritarum, &c.* Amongſt the beautiful conc ſhells: *conus thalaſſiarchus Anglicanus cullatus* §, *amadis thaſſiarchus, con. generalcis* LINN. *c. capitaneus* **, *c. miles* ††, *c. ſtercus muſcarum* ‡‡. *c. retcaureum, c. glaucus* ||||, *c. cereola, regia corona murus lapedius, canda erminea ſocietas cordium.* There are many other beſides thoſe already mentioned, equally valuable and curious.

The great ſucceſs of the Rev. Doctor JOHN in conchology when at *Tutuorin* and aſſiſted by G. ANGELBECK, with a boat and divers: and the capital

* The golden tong. † Mounkſcape. ‡ Royal ſtaircaſe.
|| Weaver's ſhuttle. § Red *Engliſh* admiral. ** Green ſtamper.
†† Garter ſtamper. ‡‡ Great ſand ſtamper. |||| Capſ. Gottw.

collections

collections made by his agents, whom he afterwards ſent there with the neceſſary inſtructions and apparatus, may be ſeen in CHEMNITZ's elegant cabinet of ſhells in 4to (with illuminated plates), and how many new ſpecies of Zoophytes he diſcovered, we learn from another German work by ESPER at *Erlangen*, the third volume of which is nearly finiſhed.

XXV.

ASTRONOMICAL OBSERVATIONS MADE IN THE UPPER PROVINCES OF HINDUSTAN.

BY WILLIAM HUNTER, ESQ.

LATITUDES OBSERVED.

1795	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
Feb. 23	Nawabgunge; Chubbooterah E.	⊙ M. A.	27 26 46	clear, moderate.	
24	Alygunge; Moſque S. 66 E.	⊙ M. A.	27 30 18	ditto. ditto.	
25	Doomree; Fort. S. 11 E. diſt. 2. 7. Fs.	⊙ M. A.	27 33 13	ditto. ditto.	
26	Erjunpoor; N. 61.—89 W. 1. 75. Fs.	⊙ M. A.	27 41 12	ditto. ditto.	
27	Manhera; tents cloſe to the town.	⊙ M. A.	27 44 45	cloudy. ditto.	
28	Secundra; (named Raw.) N. 30. 72. E. 3 25. Fs.	⊙ M. A.	27 41 29	ditto. ditto.	
March 2	Mindoo; Mr. Orr's houſe. S. 34. E. 4. Fs.	⊙ M. A.	27 37 56	clear. ditto.	
3	Ditto	⊙ M. A.	27 38 17	cloudy. ditto.	27 38 8 0
4	Ditto	⊙ M. A.	27 38 11	thin flit clouds. do.	
5	Coel; General Deboigne's houſe.	⊙ M. A.	27 54 4	clear. windy.	
6	Ditto	⊙ M. A.	27 54 8	ditto. moderate.	27 54 6 0
15	Jooar; diſt. 2. 25. Fs.	⊙ M. A.	27 36 42	ditto. windy.	
16	Hunſeeah Gunge; diſt. 3. Fs. moſque of Abd-ul-nubbee-Khan, at Matra. S. 26. W.	⊙ M. A.	27 31 33	ditto. moderate.	
17	Matra; Litcha Bagh	⊙ M. A.	27 29 46	ditto. ditto.	
18	Areeng; Ft. N. 71. E. 1. 5. Fs.	⊙ M. A.	27 29 50	ditto. ditto.	

1795	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
March 19	Deeg; gate. N. 72. E. 3. 25. Fs.	⊙ M. A.	27 29 6	clear. windy.	
20	Nugur; S. 83. E. 3. 7. Fs.	⊙ M. A.	27 26 13	ditto. moderate.	
21	Alinagur; S. 30. 40. E. 1. M. 7. 3. Fs. Cohery Pahang. N. 2. W. 4. M. 2. 3. Fs.	⊙ M. A.	27 31 58	ditto. ditto.	
30	Jablee, or Bijouly; Ft. S. 46. 67. W. 2. Fs.	♍ Urſ. Maj.	27 22 1	ditto. ditto.	
31	Ditto	κ Hydræ	27 24 8	ditto. ditto. brightneſs of the moon obſerved the ſtar.	27 23 4 5
April 7	Maat; S. 47. E. N. 49. E. 1. 75. Fs.	β Urſ. Maj.	27 37 16	clear, moderate.	
8	Nop; Fort. N. 20. W.—N. 17 E. 2. Fs.	α Hydrae.	27 51 24	ditto. ditto.	27 50 50 0
	Ditto	β Urſ. Maj.	27 50 16	ditto. ditto.	
9	Tappel; Ft. N. 12.—62. W. 1. 4. Fs.	κ Hydrae.	28 3 9	clear, windy.	28 3
	Ditto	β Urſ. Maj.	28 3 17		
10	Ditto	ϑ Urſ. Maj.	28 3 1	ditto. moderate.	
11	Raghoopoor; N. 8. E.—N. 85. W. 0. 5. Fs.	α Hydrae.	28 14 46	ditto. ditto.	
12	Duncour; gate. S. 5. E.—3. 5. Fs.	α Hydrae.	28 21 31	ditto. ditto.	
13	Soorejpoore; S. 5. W.—S. 50. E. 1. 6. Fs.	α Hydrae.	28 31 10	ditto. ditto.	
14	Putpurgunge; S. 46.—81. E. 2. 3. Fs.	α Hydrae.	28 36 47	ditto. ditto.	
15	Dehly; garden of Shah Nizam-ud-deen.	α Hydrae.	28 38 55	ditto. ditto.	28 38
		α ♍	28 38 32		
16	Ditto . Ditto	α Draconis.	28 39 37		

1795	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
April 20	Ditto, palace of Sufder Jung.	α Hydrae.	28 40 47	clear, moderate.	28 40 12 5
		Aliath.	28 40 24		
		α ♍	28 40 2		
		α Draconis.	28 39 37		
June 15	Secundra; N. W. by N. 2. 3. Fs.	♏	28 26 5	thin clouds, moder.	
19	*Anoopſheher*; Lieut. Chriſtie's bungalah.	α ♏	28 23 5	clear, calm.	
20	Ditto	α ♏	28 23 5	ditto. ditto.	
July 9	Camp, on bank of Neem-ca-nullah Biſwah. S. 40. W. 1. M. 2. 2. Fs.	α Piſc. Auſt.	27 49 59	ditto. moderate.	
10	Kaſgunge; South-eaſt gate, N. 57. W. 5. 4. F.	Ditto.	27 48 37	ditto. ditto.	
1796	Amelia (village 1′ mile from Choobeepoor). N.	⊙ M. A.	26 36 6	ditto. ditto.	
Feb. 13	12. W. 1. 8. Fs.	⊙ M. A.	26 58 25	ditto. ditto.	
19	Daipoor; camp cloſe to an old garden.	⊙ M. A.	27 5 10	thin flitting cl. do.	
17	Amirtgunge; gate. N. 60. W. 4. Fs.				
27	Dehliah; tent near the artillery ground, Cungalah. S. 66. E. one mile.	⊙ M. A.	27 21 48	clear, moderate.	27 21 51 0
		Sirius.	27 21 54		
March 3	Ditto	⊙ M. A.	27 19 2	thin clouds, calm.	
4	Neemkarouly; gate. E. 0. 8. F.	⁝ Can. Maj.	27 18 58	clear, ditto.	27 18 58 5
	Ditto	Sirius.	27 18 54	clear, ditto.	27 18 58 5
	Ditto	⁝ Can. Maj.	27 19 00		
	Ditto				

1796	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
March 5	Agut-ke-feray; N. 23.—60. E. 2. Fs. .	⊙ M. A.	27 20 53	thin clouds, moder.	
	Ditto	β Can. Maj.	27 21 5		
	Ditto	Sirius.	27 21 1	clear, calm.	27 21 12 57
	Ditto	ϑ Can. Maj.	27 21 52		
6	Aleepoor-R,hera; S. 25.—62. E. 1. F. .	⊙ M. A.	27 19 31	clear, windy.	
	Ditto	α ♎	27 20 2		
	Ditto	β Urſ. Min.	27 19 35	ditto. moderate.	27 19 39 0
	Ditto	β ♎	27 19 27		
7	Beechmar; N. 37.—77. E. 1. F. . .	α Draconis.	27 20 31		
		α ♎	27 20 39		
		β Urſ. Min.	27 20 5	ditto. ditto.	27 20 18 0
		β ♎	27 19 57		
8	Jumlapoor; N. 20.—39. E. 1. 6. F. .	⊙ M. A.	27 25 31		
	Ditto	β Can. Maj.	27 25 5		
	Ditto	Sirius.	27 24 54	ditto. ditto.	27 25 11 0
	Ditto	ϑ Can. Maj.	27 25 15		
9	Sukeet; Fort. S.—S. 51. E. 1. F. . .	α Draconis.	27 26 39	ditto. ditto.	
	Ditto	α ♎	27 25 24	do. do. alt.ſuſpected-toogreat	
	Ditto	β Urſ. Min.	27 27 5	ditto. ditto.	27 26 20 0
	Ditto	♎	27 25 50		
10	Ditto	⊙ M. A.	27 26 42	ditto. windy.	
	Ditto	β Urſ. Min.	27 26 42	ditto. calm.	
	Ditto	β ♎	27 25 57		

1796	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
11	Etap; S. 33. E.—S. 12. W. South gate, S. 7. E. 2. 1. F.	⊙ M. A.	27 34 18	clear, windy.	
	Ditto	β Can. Maj.	27 33 29		
	Ditto	Sirius.	27 34 1		
	Ditto	ϑ Can. Maj.	27 35 4		27 34 15 0
	Ditto	β Urſ. Min.	27 34 12		
	Ditto	β ♎	27 34 27		
12	Nadowly; Ft. S. 76. E.—N. 88. E. 3. 5. Fs.	⊙ M. A.	27 34 55	clear, windy.	
	Ditto	Sirius.	27 34 16		
	Ditto	Can. Maj.	27 34 45	ditto. moderate.	27 34 42 0
	Ditto	β Urſ. Min.	27 35 5		
	Ditto	β ♎	27 34 27		
13	Secundra (Raw); S. 74. E. N. 35. W. cloſe.	⊙ M. A.	27 41 33	ditto. windy.	
14	Mulloy, Mr. Stewart's houſe.	⊙ M. A.	27 42 45	ditto. ditto.	
	Ditto	α Draconis.	27 42 34		
	Ditto	α ♎	27 42 18	ditto. calm.	27 42 27 0
	Ditto	β Urſ. Min.	27 42 12		
	Ditto	α ♎	27 42 28		
15	Jelaly; Mr. Longcroft's houſe; N. E. 3. 5. Fs.	α ♎	27 51 56		
	Ditto	Urſ. Min.	27 52 6	ditto. ditto.	27 52 10 0
	Ditto	β ♎	27 52 28		

1796	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
March 16	Bellah, Mr. Lenham's houſe; S. 85. E. 4. 7. Fs.	α Draconis.	27 55 2		
	Ditto	☉ ♎	27 54 48	ditto. ditto.	27 54 53 0
	Ditto	β Urſ. Min.	27 55 13		
	Ditto	☽ ♎	27 54 28		
17	Atrawley, North gate; S. 16. W. 2. 7. Fs.	♂ Can. Maj.	28 3 16		
	Ditto	α Draconis.	28 2 2		
	Ditto	☉ ♎	28 1 27	thin clouds, moder.	28 2 14 0
	Ditto	β Urſ. Min.	28 2 5		
	Ditto	☽ ♎	28 2 21		
18	Debay; S. 2. E.—S. 13. W. North gate; S. 6. W. 7. 2. Fs.	☉ M. A.	28 14 1	clear, moderate.	
20	*Anoopſheber*; Col. Wares bungalow.	☉ M. A.	28 23 6	clear, windy.	
21	Ditto	☉ M. A.	28 23 21	ditto. ditto.	
22	Ditto	☉ ♎	28 22 49	clear, calm, ſtars rather obſcured by the brightneſs of the moon.	28 23 7 0
	Ditto	☽ ♎	28 23 14		
24	Atrawly; South gate, diſt. 4. 6. F.	♂ Can. Maj.	28 1 31		
	Ditto	η Can. Maj.	28 1 43	clear, calm.	28 1 54 0
	Ditto	☿ Navis.	28 2 36		
	Ditto	α Hydrae.	28 1 48		

1796	Place.	Sun or Star.	Latitude.	Remarks.	Mean Latitude.
			° ′ ″		° ′ ″ ‴
March 29	Aly gunge; E. gate, dift. 1. 3. Fs.	♂ Navis.	27 30 27		
	Ditto	α Hydrae.	27 29 54	clear, windy.	27 29 38 0
	Ditto	β Urf. Maj.	27 29 9		
	Ditto	γ Urf. Maj.	27 29 3		
May 30	Betourah; N. 62. E. 1 mile, right hand bank of Ganges.	ε ♍	26 2 52		
		α Draconis.	26 1 23		
		α ♎	26 1 29	ditto. ditto.	26 1 54 0
		β Urf. Min.	26 1 51		
31	Yacoot gunge; (fmall village left hand bank of Ganges); Sharadpoor; S. 22. W. about 2 miles.	α ♍	25 40 2	clear, moderate.	
June 1	*Allahabad*; Ft. S. E. angle.	Aliath.	25 24 54		
		α ♍	25 25 54	hazy, calm.	25 25 21 0
		α ♎	25 25 14		
2	Mudura, near Litchageer.	Aliath.	25 17 47		
		α ♍	25 17 31		
		α Draconis.	25 16 6		25 17 1 0
		α ♎	25 16 42		
3	Mirzapoor; E. ½ mile.	α Draconis.	25 9 6		
		α ♎	25 10 20	clear, moderate.	25 9 43 0
		β Urf. Min.	25 9 43		

Eclipſes of JUPITER'S SATELLITES obſerved with DOLLOND'S *Achromatic Teleſcope magnifying* 80 *Times.*

Apparent Time.	Sat.	Im or Em.	Place of Obſervation.	Longit.	Weather.	Remarks.
1794 D. H. M. S.				° ′ ″		
Jan. 24 17 28 44	1	Im	Tandah.	82 11 0	a little hazy, mod.	
March 4 15 54 8	1	Im	Lucknou (Mr. Orr's houſe).	80 39 15	clear, calm.	
31 14 59 15	2	Im	Meinpoory.	78 30 15	ditto, windy.	The brightneſs of Jupiter made the
April 29 12 41 39	1	Im	Truttegurgh.	79 18 0	ditto, moderate.	ſatellite indiſtinct.
May 2 14 44 37	2	Im	Ditto	79 16 15	ditto. ditto.	
13 16 30 16	1	Im	Ditto	79 18 30	ditto, windy.	
June 3 14 19 21	2	Im	Kankpoor (Mr. Yeld's bungalah).	79 55 0	ditto, moderate.	
1795						
March 23 17 9 31	1	Im	Camp near Alinagar.	76 51 15	ditto. ditto.	
May 1 15 41 42	1	Im	DEHLY, Sufden Jung's houſe.	76 42 0	thin clouds, calm.	The planet was clouded, a few ſe-
3 16 13 43	2	Im	Ditto	76 48 45	clear, moderate.	conds, about the time of immerſion.
17 13 58 6	1	Im	Ditto	76 48 15	ditto. ditto.	The ſatellite is certainly viſible till
27 14 29 15	3	Em	Ditto	78 2 45	clear, windy.	this time; as the ſky was not very
28 13 18 41	2	Im	Ditto	76 43 15	ditto. ditto.	clear, the immerſion may have been
June 4 15 55 00	2	Im	Ditto	77 8 45	ditto. ditto.	ſome ſeconds later. As the teleſcope
22 10 22 51	2	Im	Anoopſheher.	77 48 45	ditto. ditto.	was ſhaken by the wind, the emerſion
July 11 10 38 40	1	Im	Erjunpoor.	78 34 45	ditto, moderate.	was probably a little earlier.
Nov. 15 6 42 30	2	Em	Futtegurgh.	79 49 15	ditto, calm.	The obſervation very diſtinct; but
21 7 23 22	1	Em	Ditto	80 2 45		there is ſome uncertainty in the time,
Dec. 14 7 29 12	1	Em	Ditto	79 49 15	ditto. ditto.	from an irregularity in the watch this

day. It had been loſing at the rate of 58 ſeconds a day, mean time; but between the 4th, and 7 minutes and a quarter, and the 5th, at the ſame hour, loſt 2 minutes 59 ſeconds, from being wound up five hours later than uſual, i. e. at 5 P. M. on the 4th inſtead of noon. I obſerved again at a quarter after four P. M. and found the loſs, in 9 hours apparent time, to be 40 ſeconds. Allowing this rate from 4 A. M. to 7 and a quarter, and the loſs in that time will be 16 ſeconds, giving watch ſlow for apparent time, 2 hours, 18 minutes, 30 ſeconds, at the time of obſervation, and this is the quantity here allowed. Planet rather near the horizon.

The Variation of the Compaſs, obſerved by the Sun's Azimuth. N.B. Both the Altitudes and Azimuth were taken with the Theodolite.

1792		Place.	A.orP.M	Altitude.	Azimuth.	Variation.	Mean.
				° ′ ″	° ′ ″		° ′ ″
	Feb. 23	Baad	P	22 39 0	116 2 0E	1 8 0E	
	May 1	Oujein	A	11 25 53	78 8 0	0 2 0E	0 19 30W
1796	2	Ditto	A	14 4 45	79 34 0	0 41 0W	
	April 9	Futtehgurgh	P	1 20 0	82 20 0	1 37 0E	
	12	Ditto	A	22 30 57	90 19 0		1 42 13 E
				23 20 57	89 52 0	1 47 27E	
				23 54 0	89 33 0		

1796, April 15, at Futtehgurgh; obſerved the following diſtances of the Moon from Aldebaran and Spica.

Time by Watch.	Diſtant Moon & Aldebaran, nearest Limb.	Time by Watch.	Diſtant Moon & Spica, farthest Limb.
H. M. S.	° ′ ″	H. M. S.	° ′ ″
6 43 22	61 10 51	8 1 58	72 54 30
50 20	13 0	5 10	52 15
57 5	15 15	8 46	51 15
7 3 45	18 0	12 2	49 45
9 5	19 45	15 49	47 30
6 56 43	61 15 15	8 8 45	72 51 3

Alſo the following Altitudes for rectifying the Watch.

Time by Watch.	Altitude Aldebaran.	Time by Watch.	Altitude Spica.
7 36 58	24 39 45 double angle	7 46 4	64 40 0 double angle
		48 33	64 36 30
		51 9	65 34 15

Error of the Sextant 2′ 15″ ſubtractive.

Reſults	H. M. S.
Watch ſlow by Aldebaran	46 49
by Spica	42
	46
	47
Mean ſlow for Apparent Time	46 46

	Apparent Time.	Apparent. Moon.	Altitude. Star.	True diſtance: centre Moon & Star.	Longitude.
	H. M. S.				
1ſt ſet Alde.	7 43 29	78 49 41	21 7 9	61 38 36	79 41 45
2d ſet Spica	8 55 31	64 20 48	35 54 52	72 14 54	80 7 45

Longitude of Futteghur by mean of both ſets 79 54 45

NOTE

Reſpecting the Inſect deſcribed in Page 213.

THIS inſect is the *Meloë Chihorri* of LINNÆUS. The following extract from a late publication will ſhew how much the gentlemen of the faculty are indebted to Captain HARDWICKE for having pointed out to them ſo valuable an addition to their *Materia Medica* in this country.

"I ſhall only obſerve, that the Papilio, &c. are here extremely common, as "is likewiſe the *Meloë Cichorii* Lin. towards which Doctor MANNI has endea-"voured to direct the attention of his countrymen. It remains from *May* to "*Auguſt*, and eſpecially during *June* and *July*, in aſtoniſhing quantities, not only "upon the *cichoreum* but alſo upon the *cerealis carduus* and *cynora carduncul*us. "The common people have long uſed the liquor that diſtils from the inſect, "when the head is torn off, for the purpoſe of extirpating warts; and Mr. "CASIMIR SANSO has often employed it in lieu of the common bliſtering drug: "but to render it more generally uſeful Doctor MANNI has made a variety of "experiments, and found that forty-five grains of the MELOE, and fifteen "grains of *Euphorbium* fermented with flour and common vinegar, and well "mixed up, made a moſt excellent bliſtering plaiſter. The proportions muſt "be increaſed, or diminiſhed, according to the age, ſex and conſtitution of the "perſon, but the above mentioned quantity uſually produces a proper effect "in thirteen or fourteen hours. Theſe inſects are collected morning and even-"ing, and put into a covered veſſel, when they are kept until they are dead, "when they are ſprinkled with ſtrong vinegar, and expoſed to the hot ſun, "until they become perfectly dry; after which they are put into glaſs bottles "and carefully kept from humidity."

Travel-

Travels to Naples by CHARLES ULYSSES, of SALIS MORSCHLINS.—*translated from the* GERMAN by ANTHONY AUFRERE, Esq. London, 1795, p. 148.

NOTE

Referring to Page 204 *of this Volume.*

HAVING lately passed *Benares.* I took that opportunity of again examining the observatory, and ascertained the circle which stands on the elevated terrace to the East (respecting the position of which I formerly spoke with some degree of hesitation) to be situated in a plane parallel to the Equator.

W. HUNTER.

Sept. 28 1797.

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The Pages 133 and 141 Wood Cuts muft be folded in, to prevent their Work being cut into.

In Page 215 mention is made of a Drawing accompanying the Defcription of the Meloë Infect, to which References are made in Page 217; but there does not appear to have been any Plate engraved from the Drawing, as there is none in the Calcutta Edition, from which this was Printed.